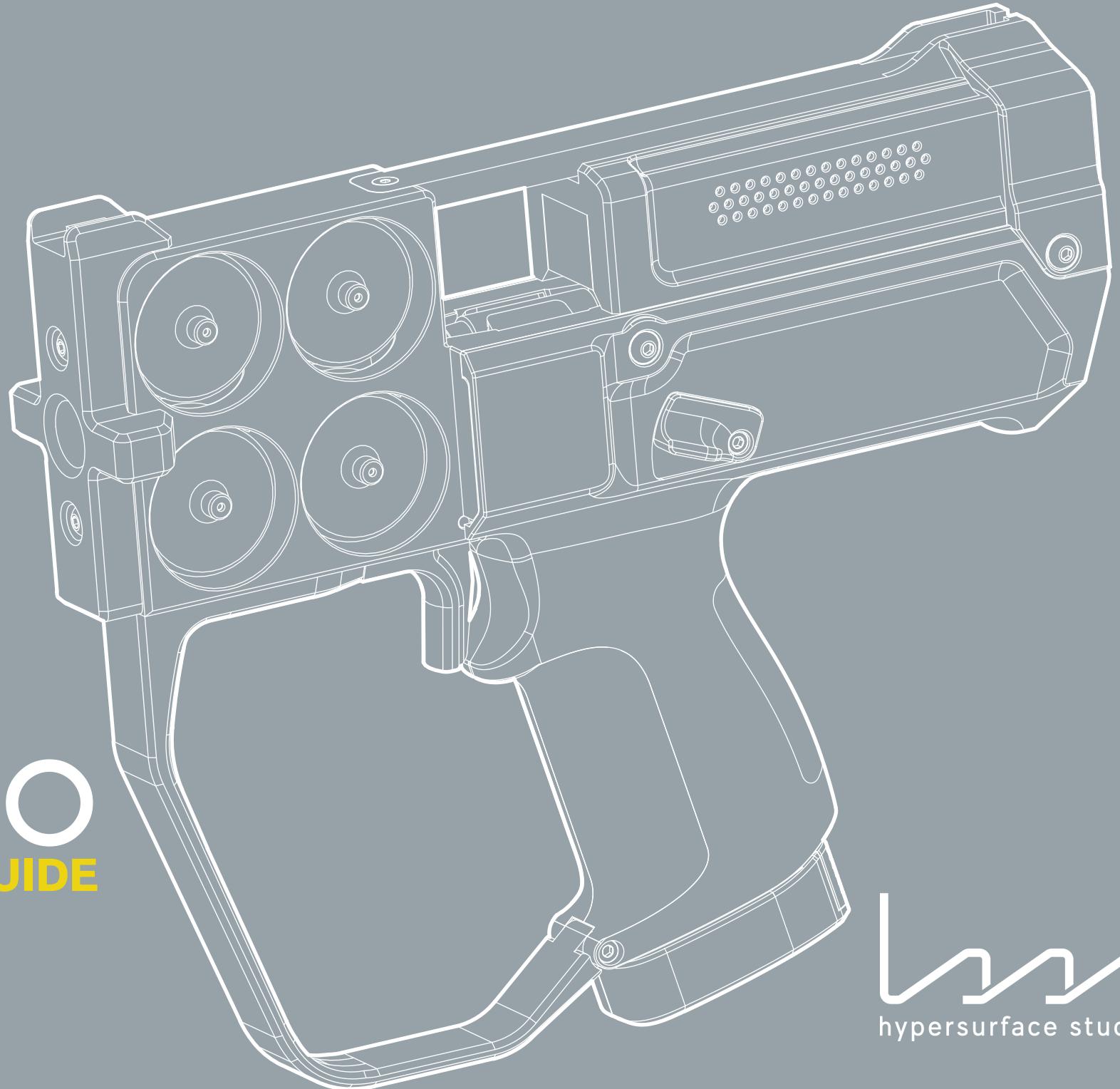


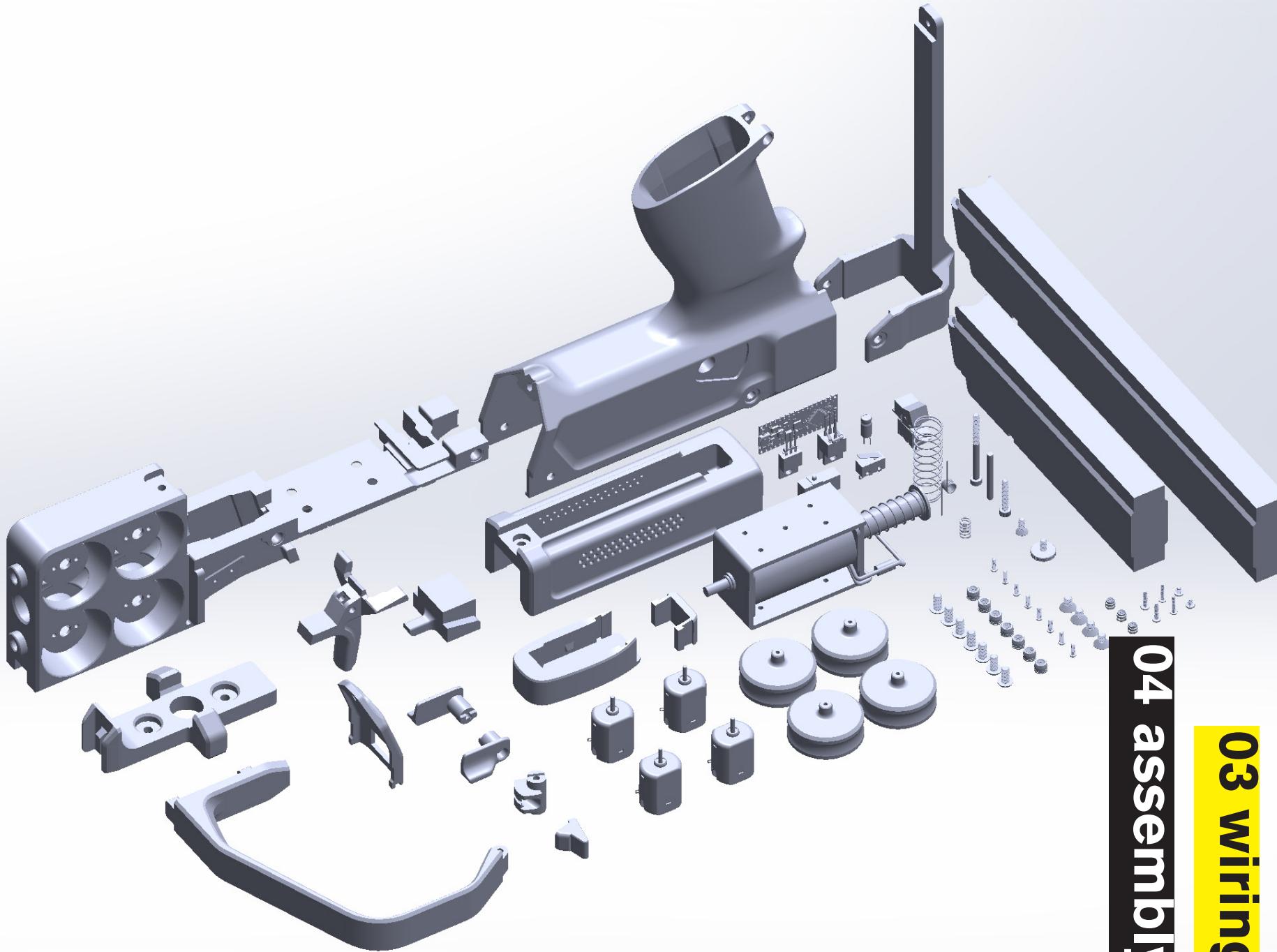
TARO

ASSEMBLY GUIDE

revision 1.0



01 bill of materials



02 print orientation + notes

03 wiring

04 assembly

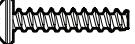
Item	Purpose	Qty	Source	Part Number
Nerf Parts				
Talon Magazine, Angled	Dart Feeding Source	1		
Flywheel, RapidStrike/Stryfe Compatible	Propulsion	4		
Out Of Darts Kraken 130 Motor	Propulsion	4	Out of Darts	
Graphene 0.95 Ah 3s LiPo Battery	Power	1	Out of Darts	
Electronics				
IRLB3034 MOSFET	Driver/Switching	3	DigiKey	4518-IRLB3034-ND
1N5400 Diode	Backfeed MOSFET Protection	3	DigiKey	1N5400G-T
1N4001 Diode	Arduino Power Stabilizer	1	DigiKey	1N4001G-T
100 µF Capacitor	Arduino Power Stabilizer	1	DigiKey	ESK107M025AE3KA
Resistor, 10k ohm	MOSFET Pull Down, Voltage Monitor	3	DigiKey	RNF14FTD10K0
Resistor, 1k ohm	Voltage Monitor	1	DigiKey	RNF14FTD1K00
Solenoid, 35mm	Dart Feeder	1		
NKK MN13TNW01-DA Rocker Switch	Fire Selector	1	DigiKey	360-MN13TNW01-DA-ND
Omron D2F 01FL D3	Flywheel Trigger Switch	1	DigiKey	Z4700-ND
Cherry DB2 10A	Solenoid Trigger Switch	1	DigiKey	CH886-ND
XT60 Male Connector	Battery Connector	1	DigiKey	1568-1816-ND
Arduino Nano Every	Blaster Controller	1	DigiKey	1050-ABX00028-ND
16 AWG wire, Silicone	Wiring, Solenoid + Motor			
22 AWG wire, Silicone	Wiring, Arduino + Switches			
Springs				
Solenoid Spring	Solenoid Spring Upgrade	1	Lee Spring	LP 032KL 05S316
Torsion Spring	Trigger Return Spring	1	McMaster	9271K94
Compression Spring	Magazine Release Spring	1	McMaster	9657K673
Fasteners				
Screw, M2x4mm	Flywheel Motor Mounting	8	McMaster	91263A411
Heat Set Insert, M3x4.3mm	Mounting - Trigger Guard, Magazine Release Lever, Slide Standoff, Battery Door	6	McMaster	94459A130
Screw, Flat Head, M3x8mm	Mounting - Slide Standoff	1	McMaster	91294A128
Screw, Socket Head, M3x18mm	Trigger Guard Screw Mounting	1	McMaster	91290A121
Screw, Socket Head, M3x40mm	Magazine Release Lever	1	McMaster	91292A024
Thumbscrew, M3	Battery Door Mounting	1	McMaster	92552A411
Heat Set Insert, M4x4.7mm	Mounting - Main Chassis, Grip Frame, Muzzle Cap, Dart Striker	7	McMaster	94180A351
Screw, Flat Head, M4x6mm	Solenoid Mounting	4	McMaster	92125A186
Screw, Button Head, M4x8mm	Mounting - Grip Frame, Muzzle Cap, Dart Striker	7	McMaster	92095A189
Screw, Self Tapping, #1x3/8"	Flywheel Switch Mounting, Magazine Baseplate	3	McMaster	99461A620
Screw, Self Tapping, #2x1/8"	Selector Switch Mounting	2	McMaster	92525A102
Screw, Self Tapping, #2x3/8"	Solenoid Switch Mounting	2	McMaster	99461A725
Dowel Pin, Stainless, 3mm Ø x 28mm	Trigger Pivot	1	McMaster	93600A405
1.75mm Filament, 6.5mm long	Dart Striker Roller Pin	1		

01 bill of materials

#2 x 1/8" Self Tapping Screw

x2 

#2 x 3/8" Self Tapping Screw

x2 

#1 x 3/8" Self Tapping Screw

x2 

M2 x 4mm

x8 

M3 x 8mm

x1 

M3 x 18mm

x1 

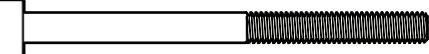
M4 x 6mm

x4 

M4 x 8mm

x7 

M3 x 40mm

x1 

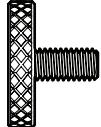
M3 x 4.3mm Threaded Insert

x3 

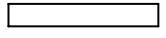
M4 x 4.7mm Threaded Insert

x7 

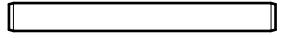
M3 x 6mm Thumbscrew

x1 

1.75mm filament, 6.5mm long

x1 

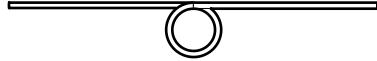
3mm Ø x 28mm Dowel Pin

x1 

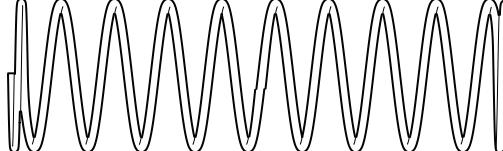
Magazine Release Spring

x1 

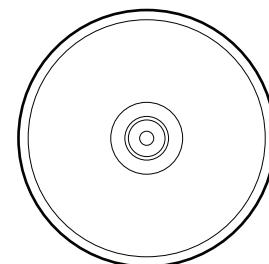
Trigger Reset Spring

x1 

Solenoid Upgrade Spring

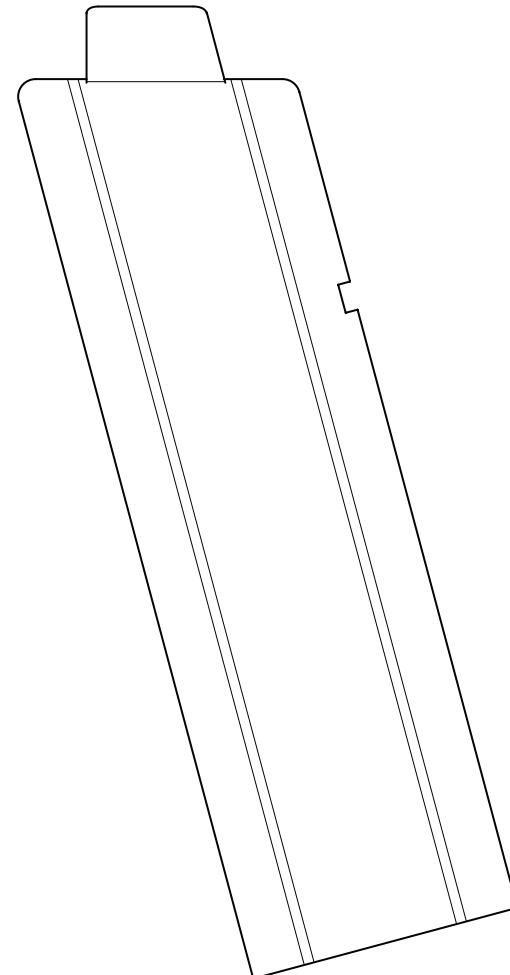
x1 

34-36mm Flywheel, 2.0mm Ø Bore



x4

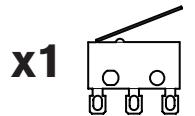
Worker Talon Magazine, Angled



x1

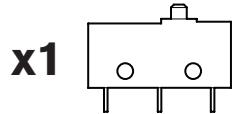
01 bill of materials

Omron D2F 01FL D3 SPDT Switch



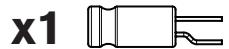
x1

Cherry DB2 10A SPDT Switch



x1

100 μ F 25v Capacitor



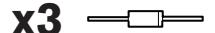
x1

10K Ohm Resistor



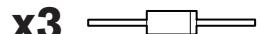
x2

1N4001 Diode



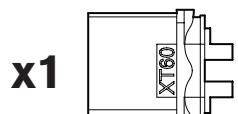
x3

1N5400 Diode



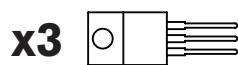
x3

XT60 Male Connector



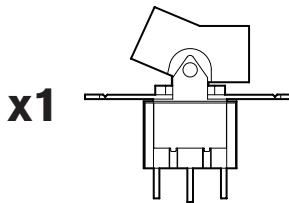
x1

IRLB3034 MOSFET



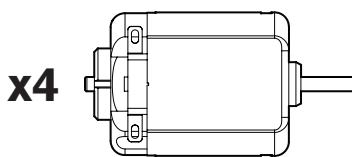
x3

NKK M2013TNW01-DA



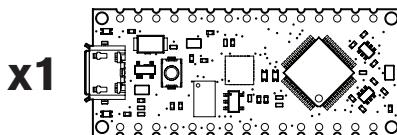
x1

130 Motor (Kraken Only)



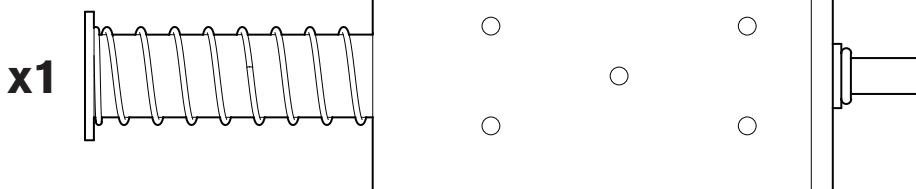
x4

Arduino Nano Every



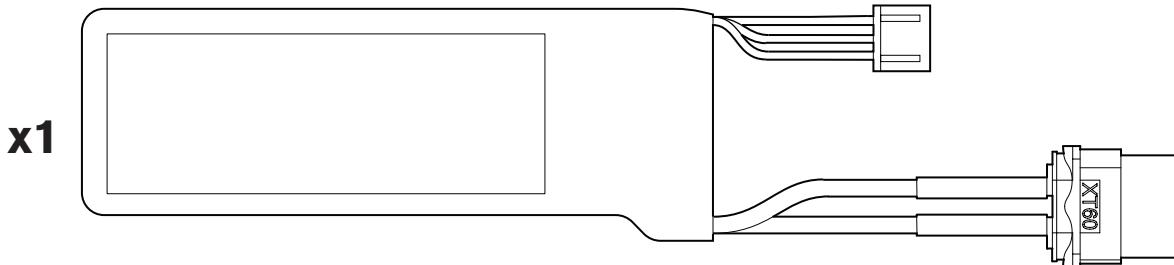
x1

35mm Solenoid



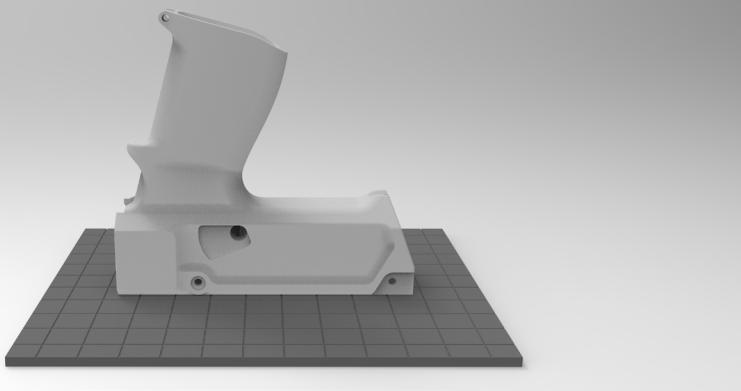
x1

Turnigy Graphene 950mAh 65c 3s LiPo Battery, XT-60 connector (equivalent or smaller)



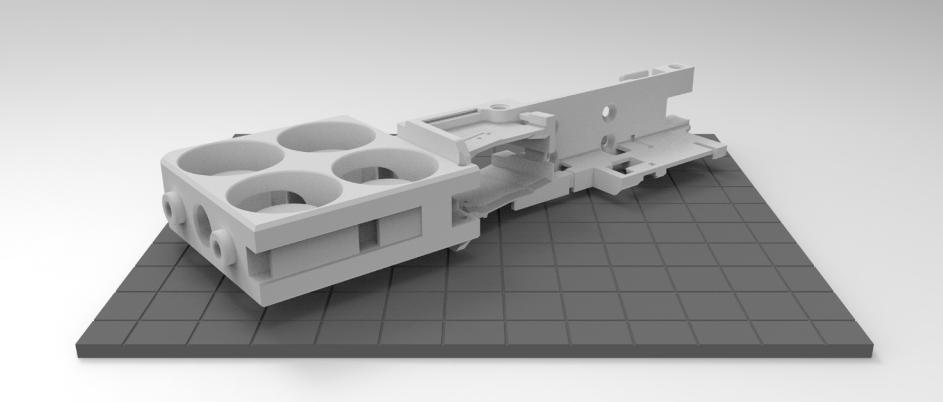
x1

02 print orientation + notes



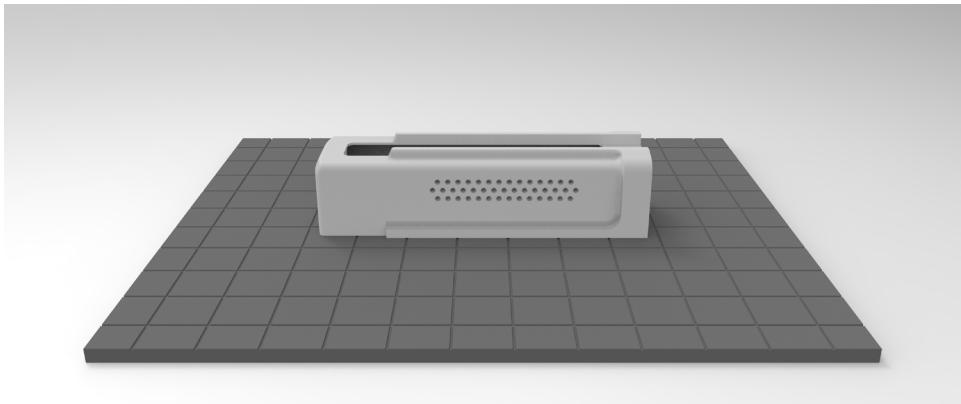
Grip Frame

*0.1-0.2 mm Layer Height
3+ Walls
20+% Infill
Brim Required*



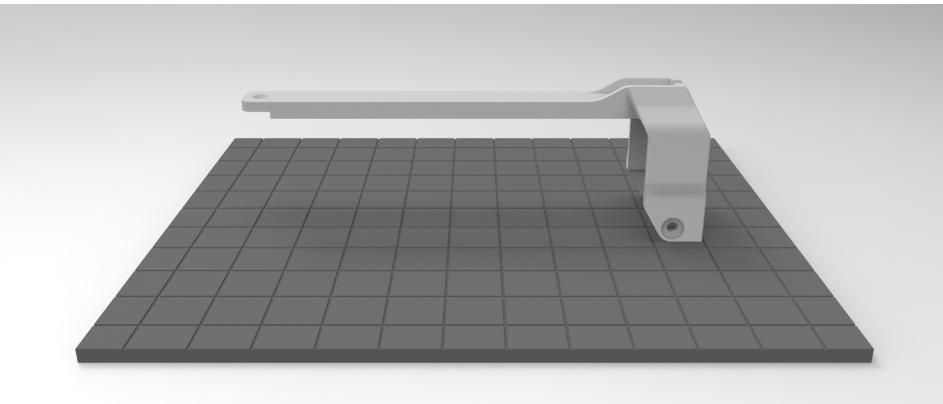
Main Chassis

*0.2 mm Layer Height
3+ Walls
20+% Infill
Brim Optional*



Slide

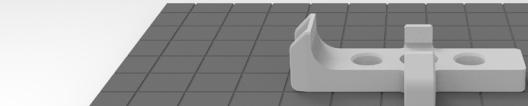
*0.1-0.2 mm Layer Height
2-3 Walls
10% Infill
Brim Required*



Slide Standoff Sight Rail

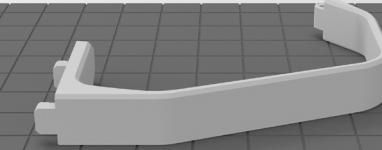
*0.1-0.2 mm Layer Height
3+ Walls
20+% Infill
Brim Optional*

02 print orientation + notes



Muzzle Cap

*0.1-0.2 mm Layer Height
3+ Walls
20+% Infill
Brim Optional*



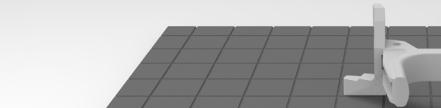
Trigger Guard

*0.2 mm Layer Height
3+ Walls
20+% Infill
Brim Optional*



Battery Door

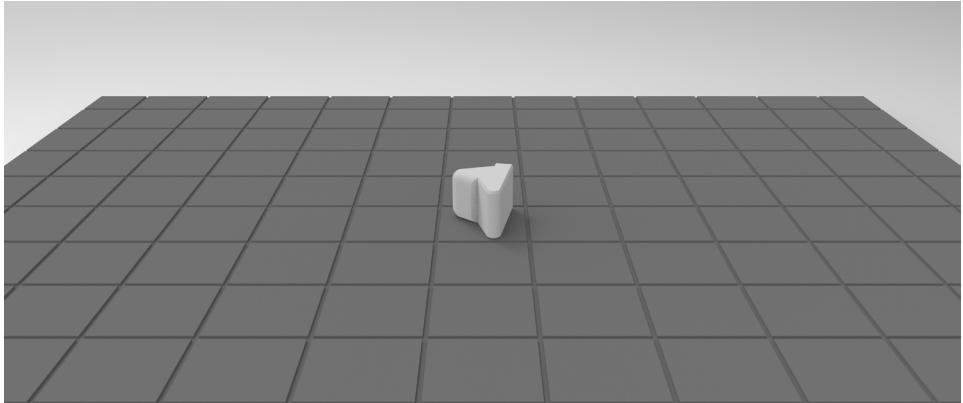
*0.1-0.2 mm Layer Height
3+ Walls
20+% Infill
Brim Necessary*



Trigger

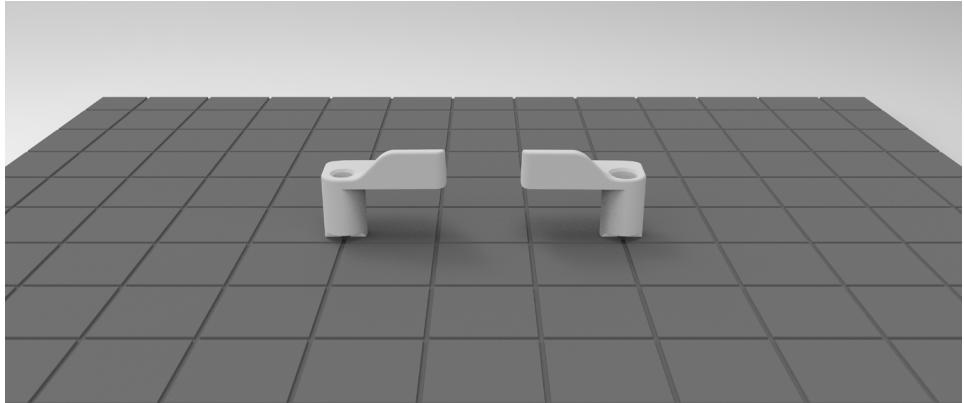
*0.1-0.2 mm Layer Height
3+ Walls
20+% Infill
Brim Optional*

02 print orientation + notes



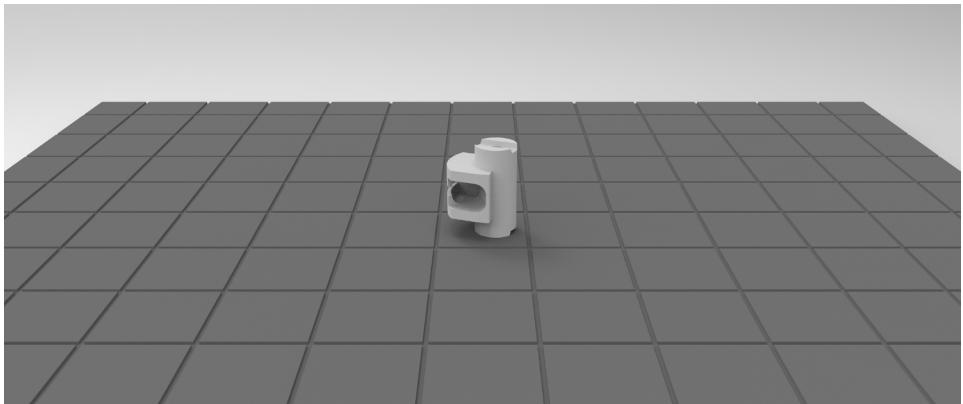
Magazine Catch

*0.1-0.2 mm Layer Height
3+ Walls
20+% Infill
Brim Optional*



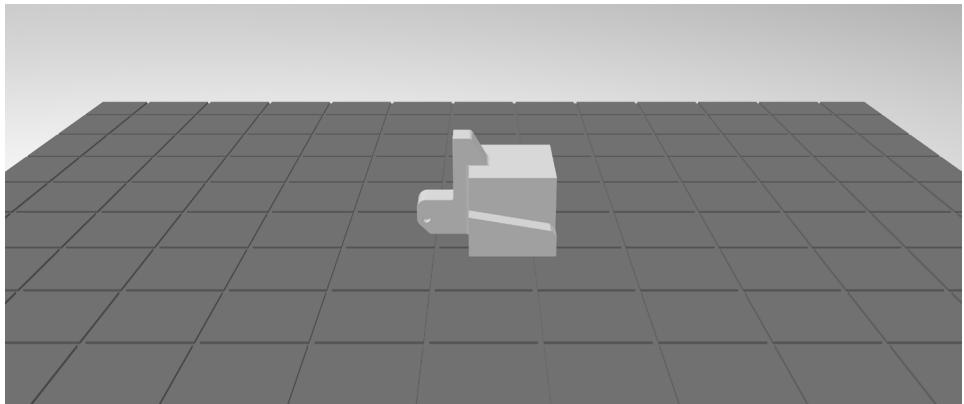
Magazine Release Lever (Left + Right)

*0.1-0.2 mm Layer Height
3+ Walls
20+% Infill
Brim Optional*



Magazine Release

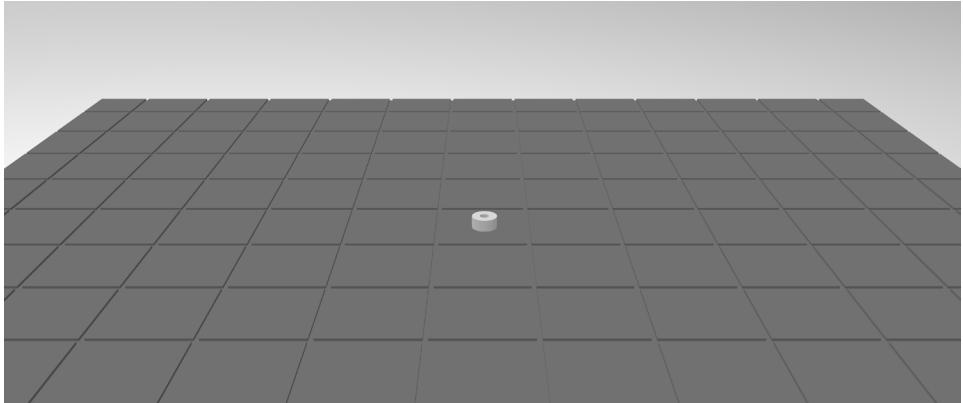
*0.1-0.2 mm Layer Height
3+ Walls
20+% Infill
Brim Optional*



Dart Striker

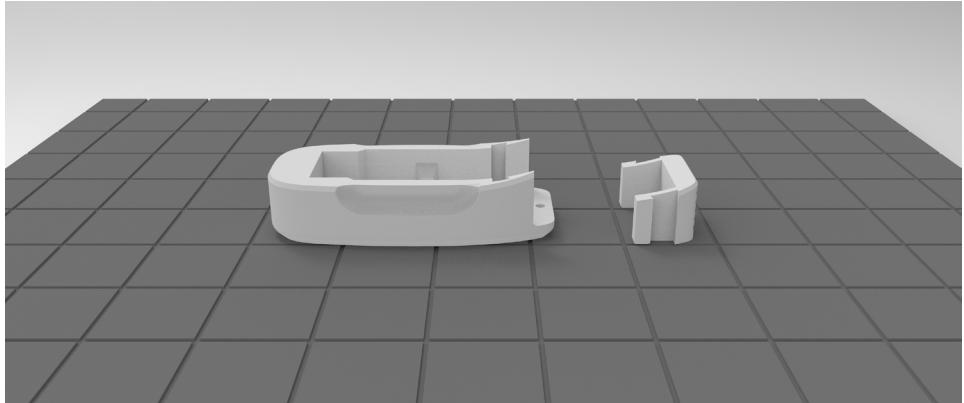
*0.1-0.2 mm Layer Height
3+ Walls
20+% Infill
Brim Optional*

02 print orientation + notes



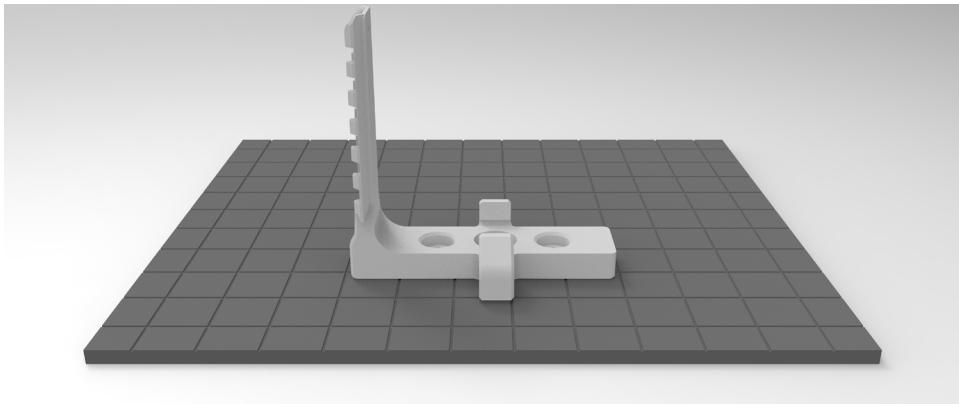
Dart Striker Roller

*0.1-0.2 mm Layer Height
3+ Walls
20+% Infill
Brim Optional*



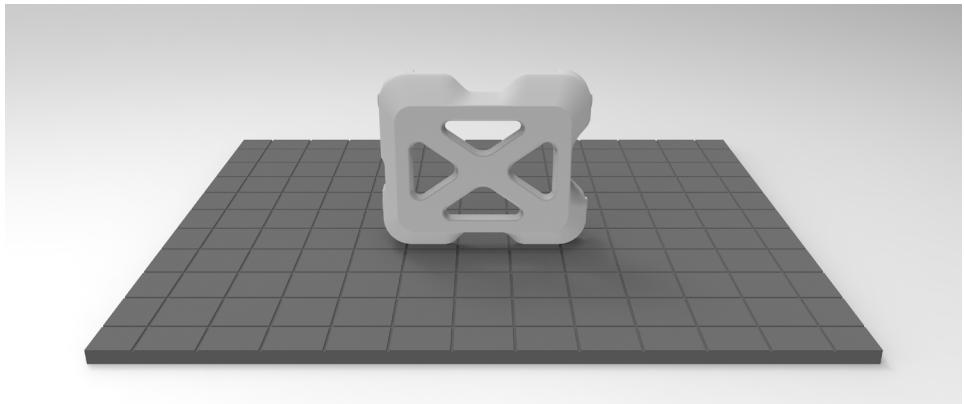
Magazine Baseplate + Lock Tab (Optional)

*0.1-0.2 mm Layer Height
3+ Walls
20+% Infill
Brim Optional*



Picatinny Muzzle Cap (Optional)

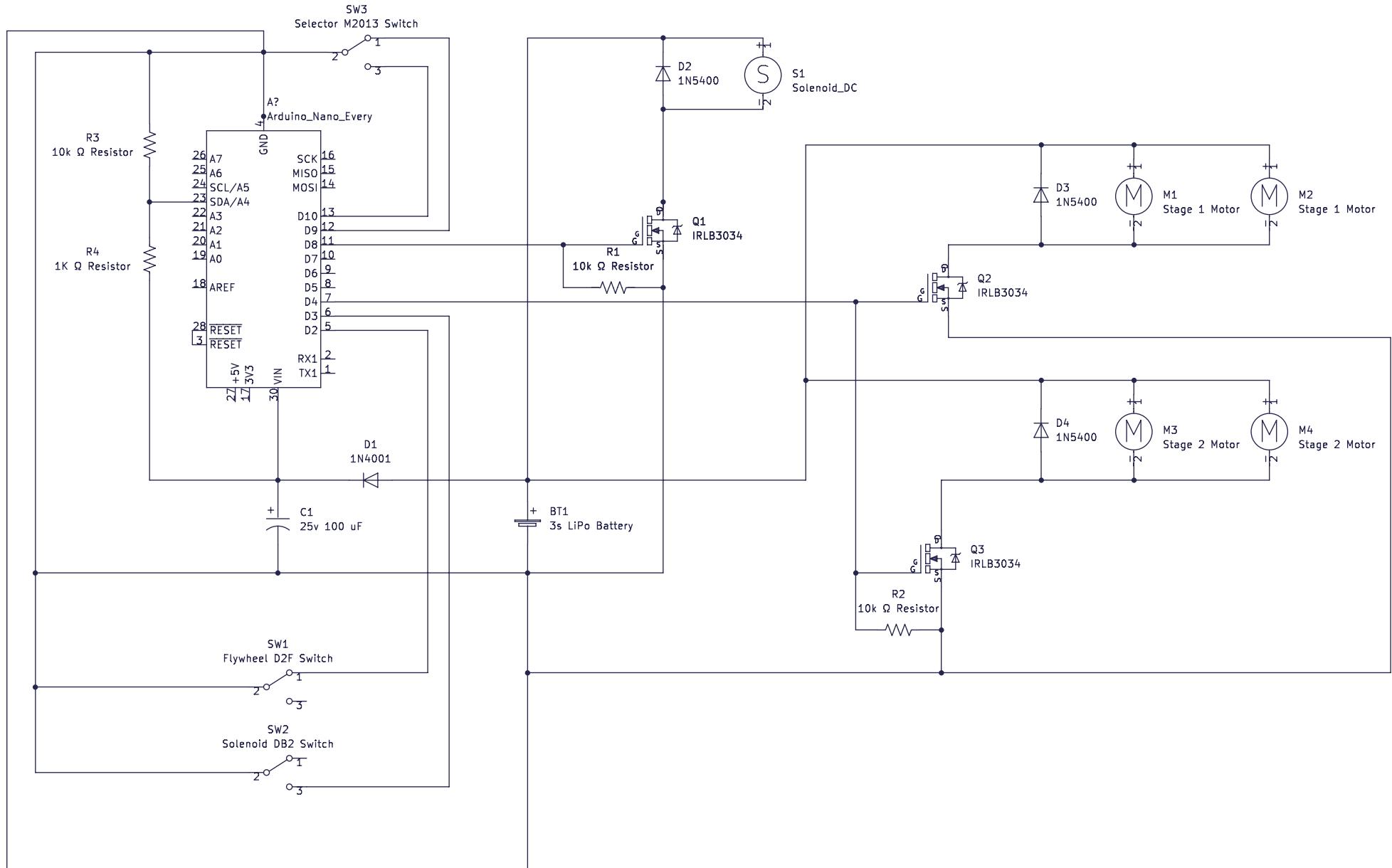
*0.1-0.2 mm Layer Height
3+ Walls
20+% Infill
Brim Optional*



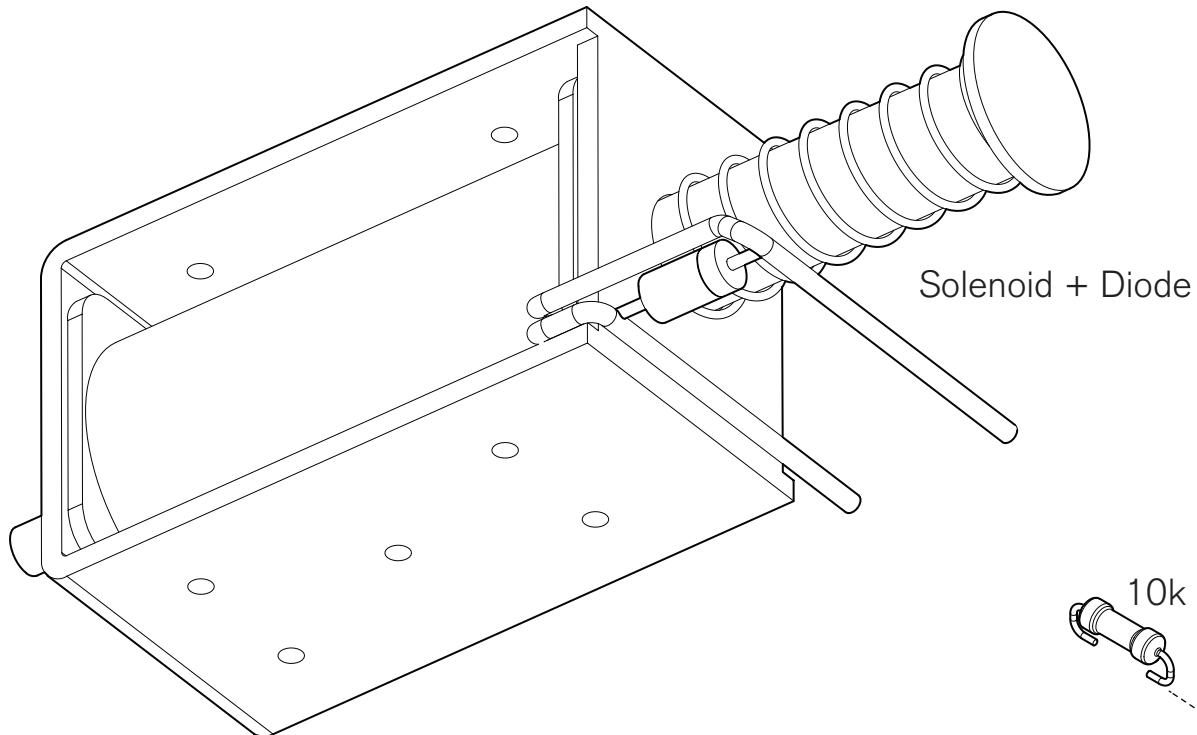
Motor Wire Cover (Optional)

*0.1-0.2 mm Layer Height
3+ Walls
20+% Infill
Brim Optional*

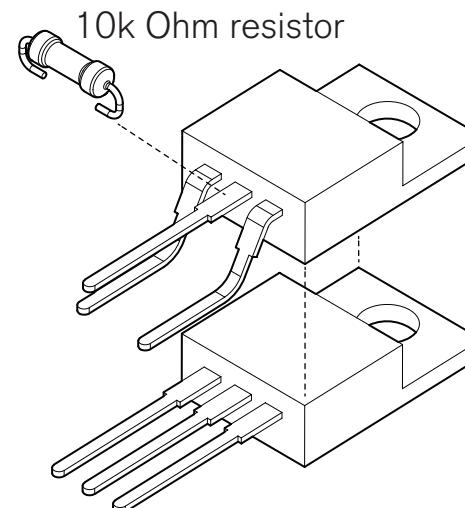
ELECTRICAL SCHEMATIC



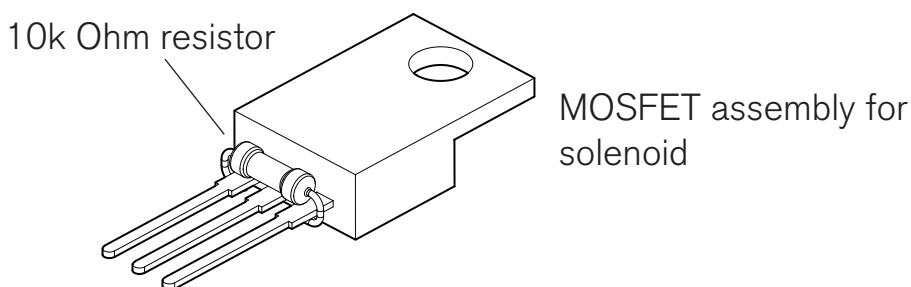
PRE-SOLDERED ASSEMBLIES



Solenoid + Diode

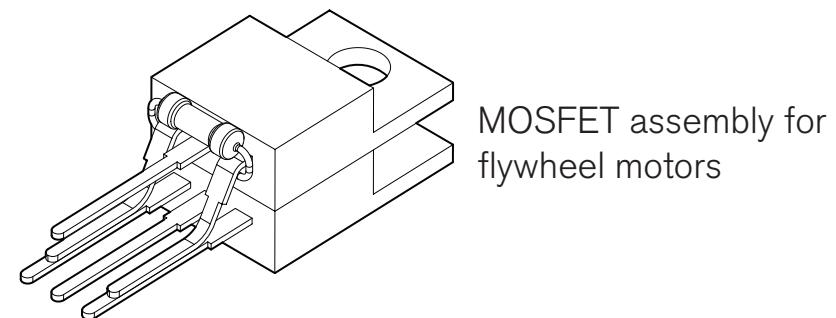


10k Ohm resistor



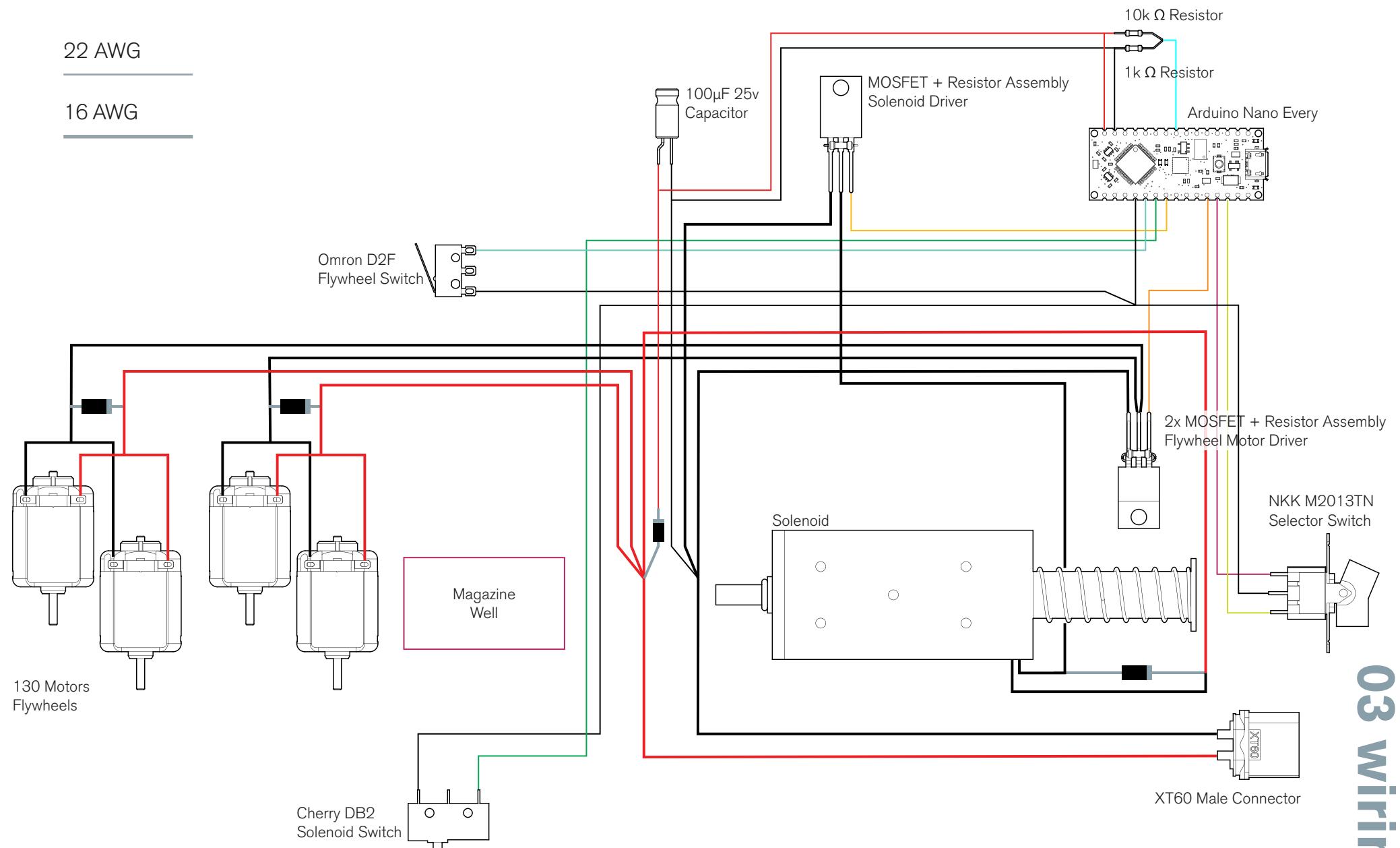
10k Ohm resistor

MOSFET assembly for
solenoid



MOSFET assembly for
flywheel motors

WIRE HARNESS SETUP

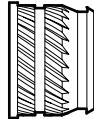


03 wiring

MAIN CHASSIS + DART STRIKER HEAT SET INSERTS

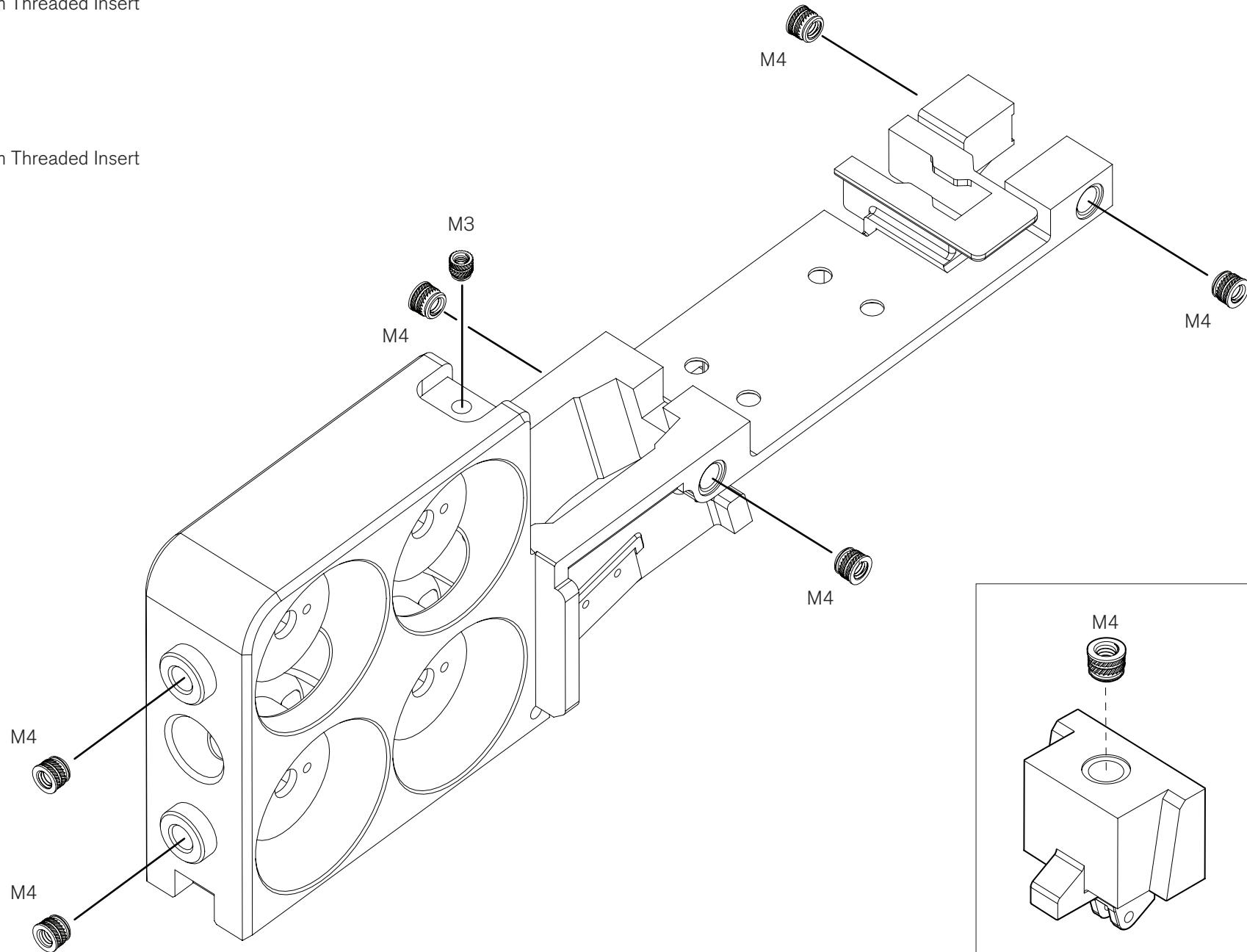
M4 x 4.7mm Threaded Insert

x7



M3 x 4.3mm Threaded Insert

x1

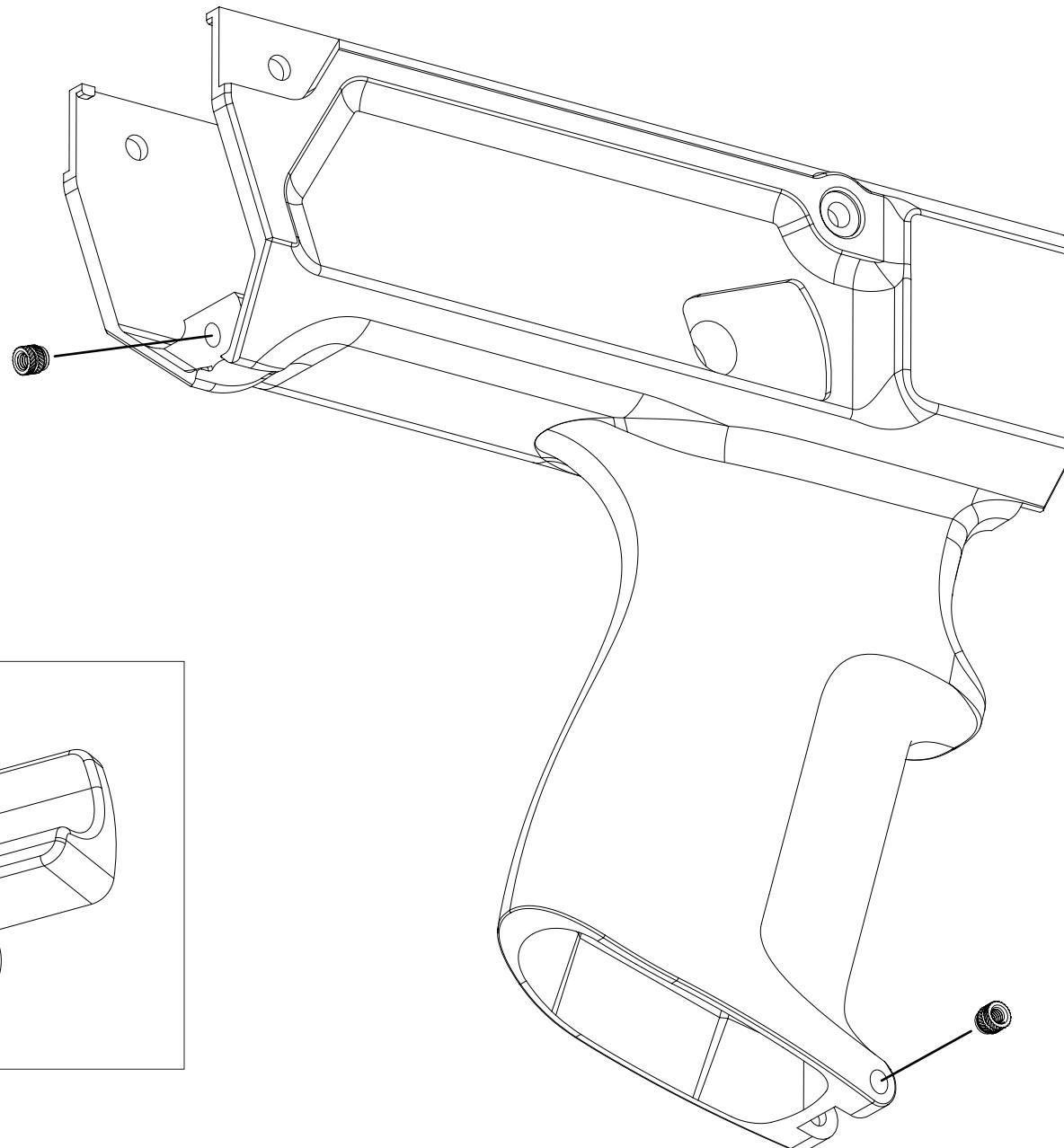


04 assembly

GRIP FRAME + RIGHT MAG RELEASE LEVER HEAT SET INSERTS

M3 x 4.3mm Threaded Insert

x3



TRIGGER

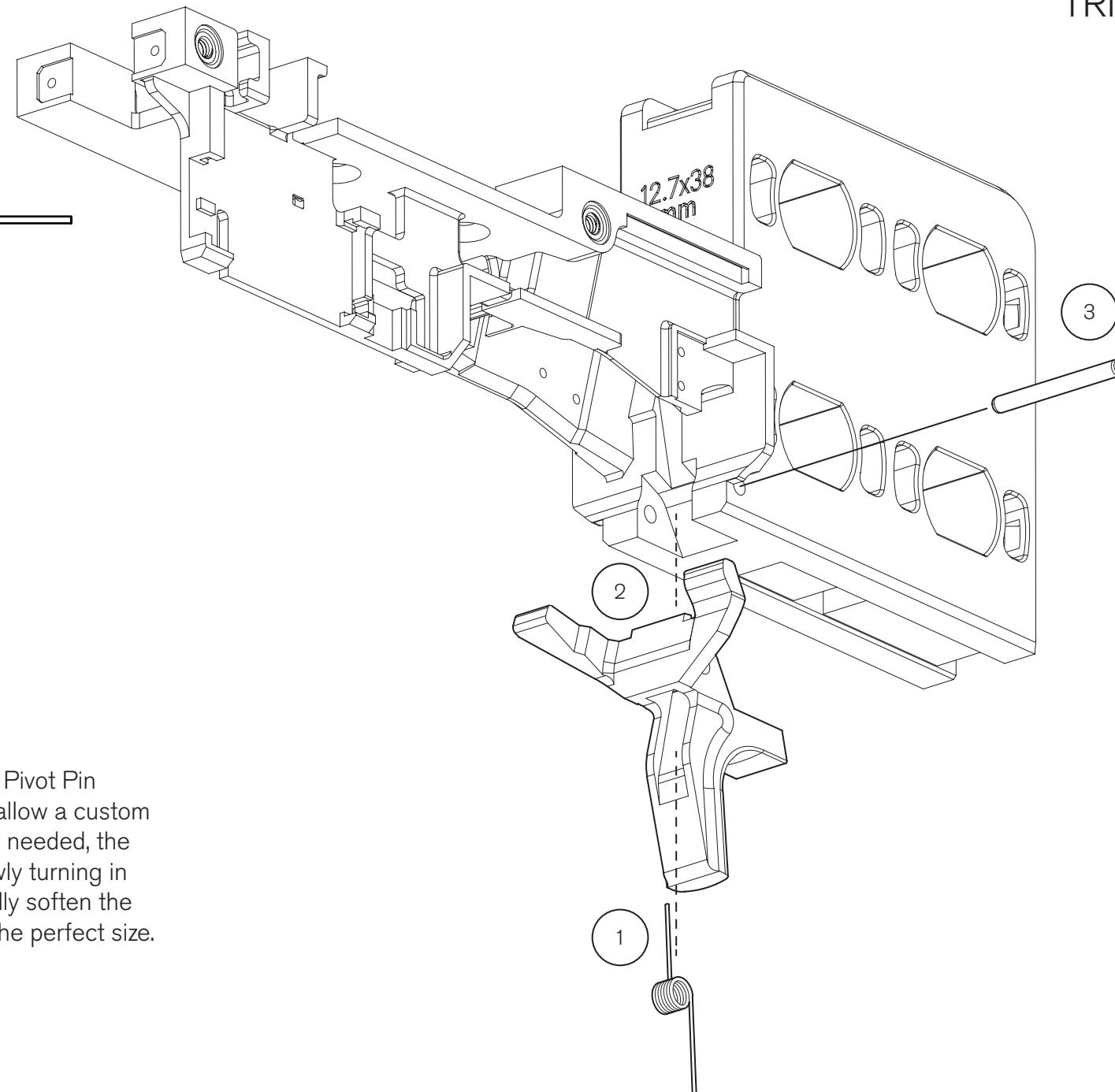
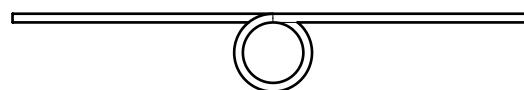
3mm Ø x 28mm Dowel Pin

x1



Trigger Reset Spring

x1

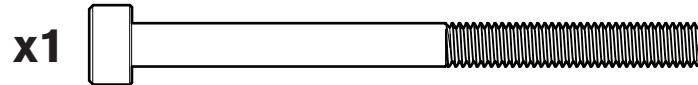


NOTE:

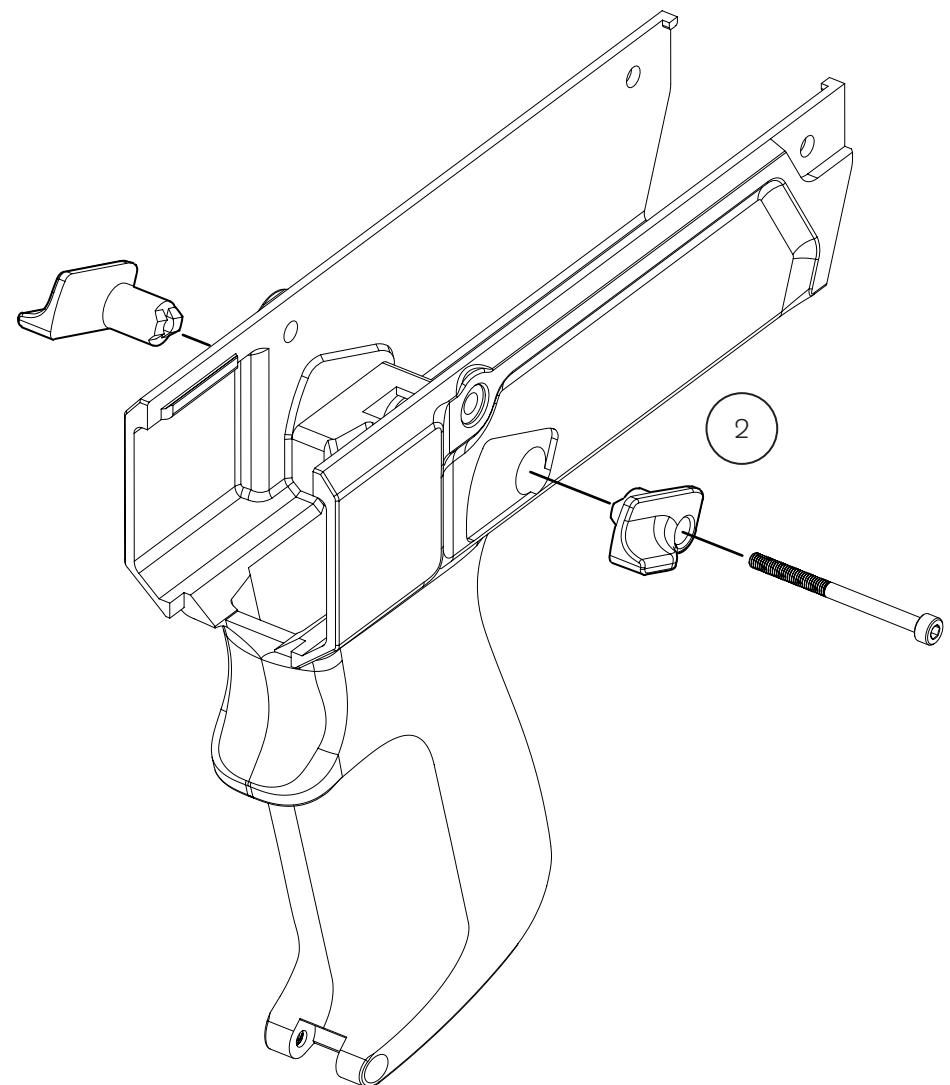
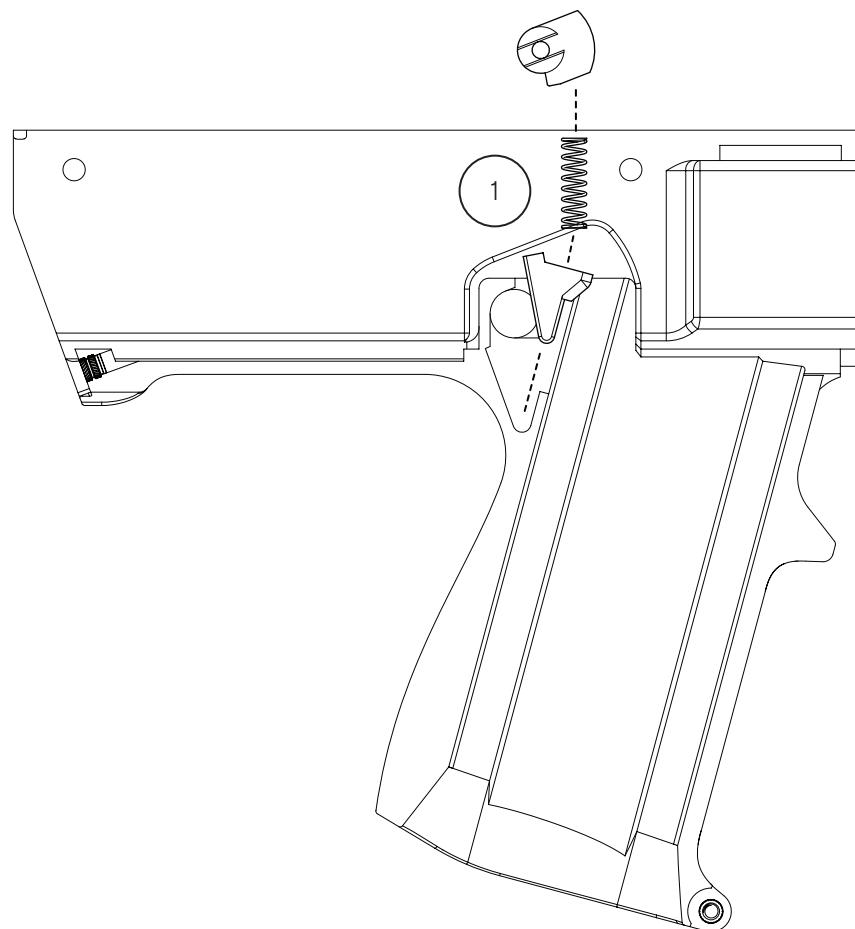
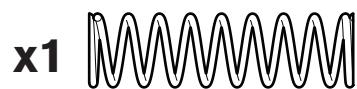
Hole in Main Chassis for Trigger Pivot Pin
should be slightly undersized to allow a custom
fit to reduce play in the trigger. If needed, the
pin should be inserted while slowly turning in
a hand drill - the friction will locally soften the
plastic and open the hole up to the perfect size.

MAGAZINE RELEASE

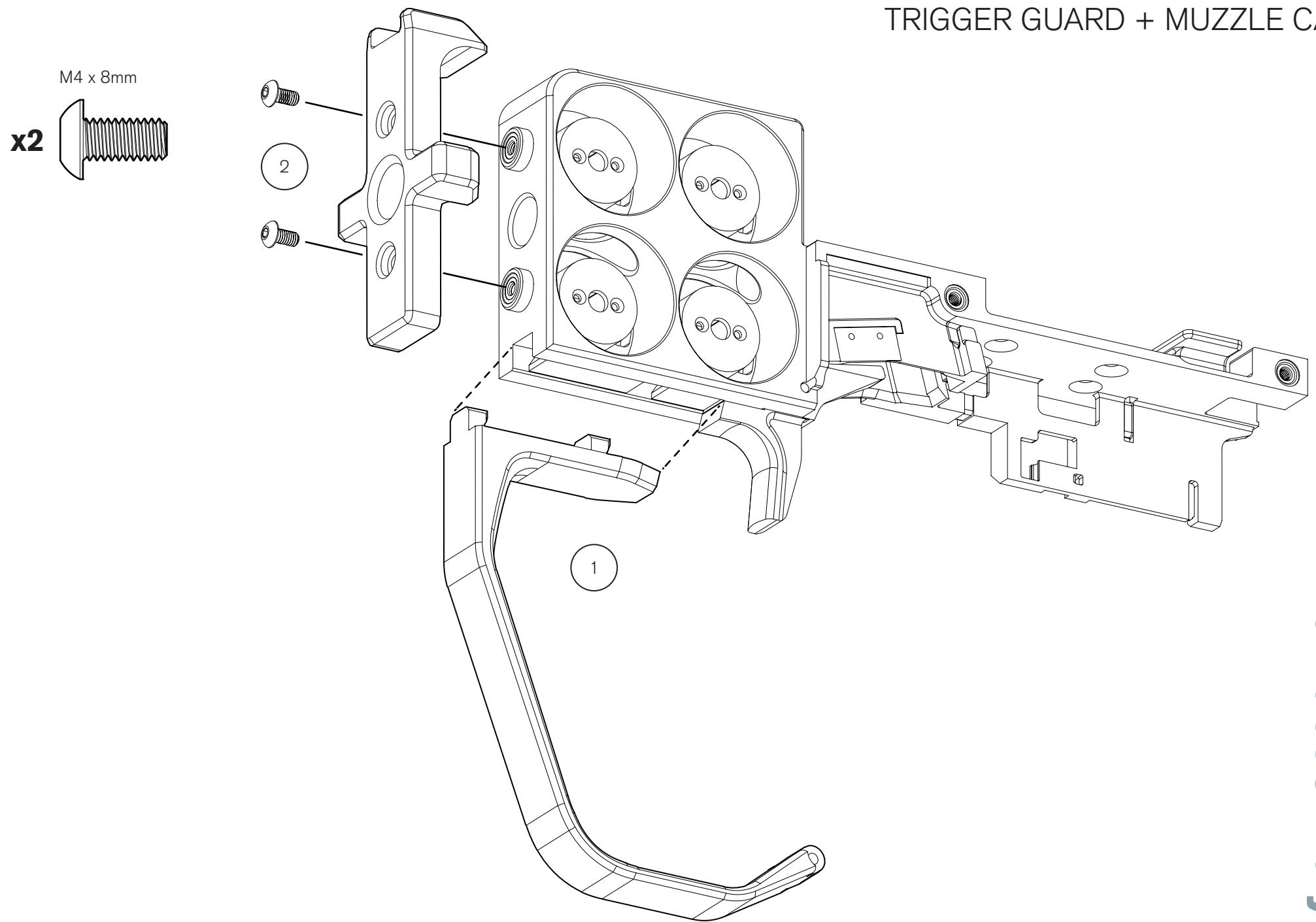
M3 x 45mm



Magazine Release Spring

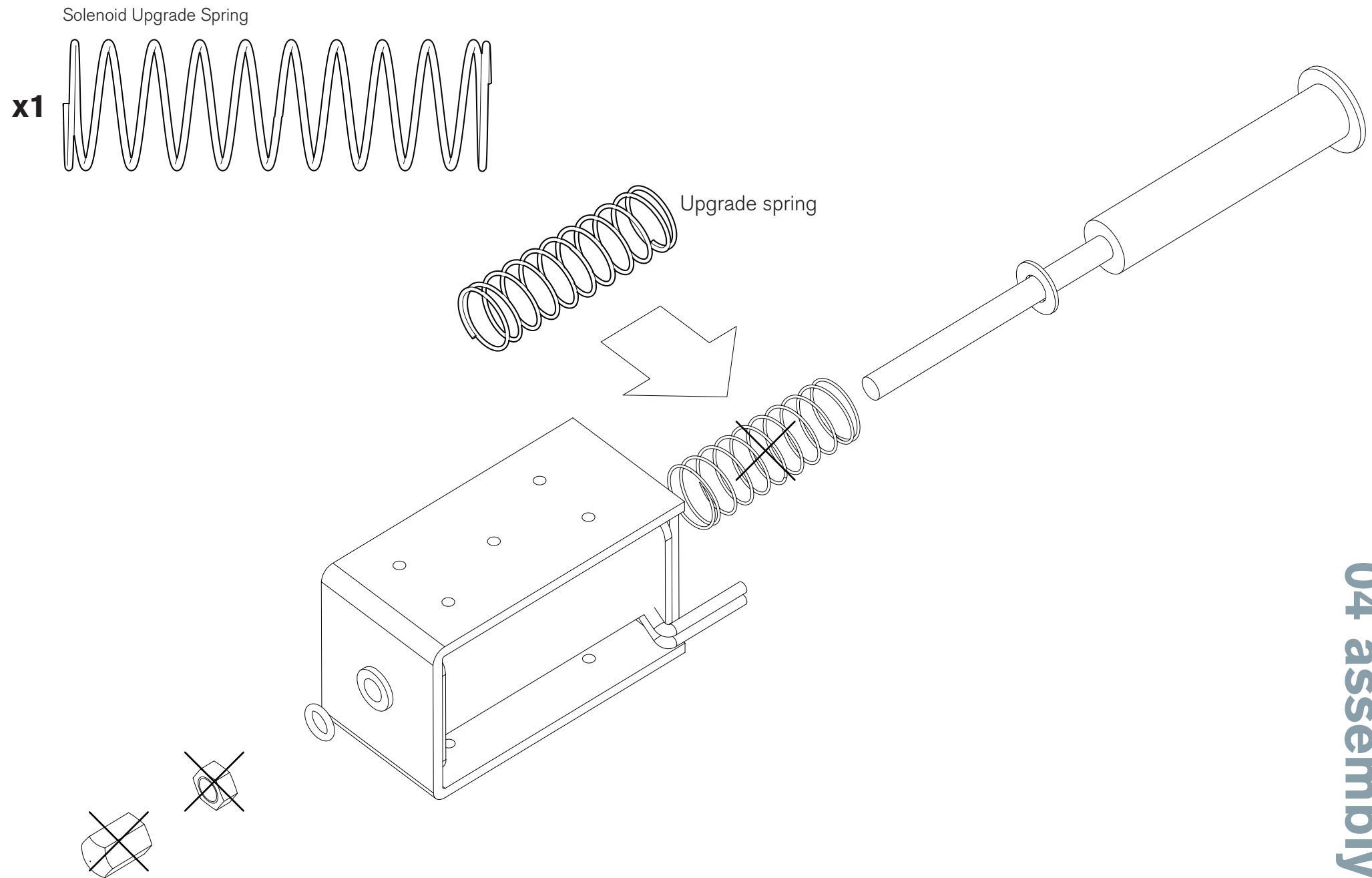


TRIGGER GUARD + MUZZLE CAP



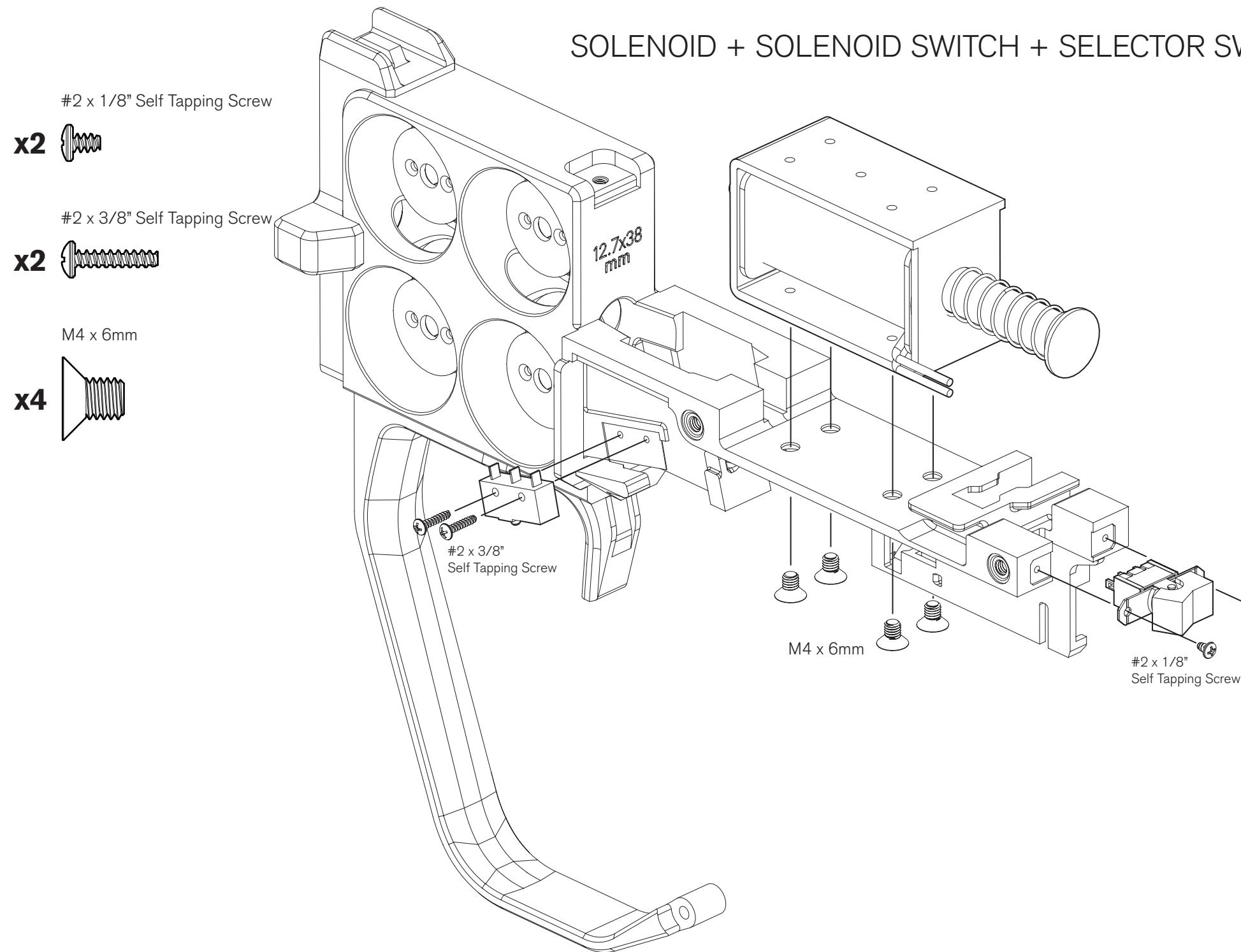
04 assembly

UPGRADING SOLENOID SPRING



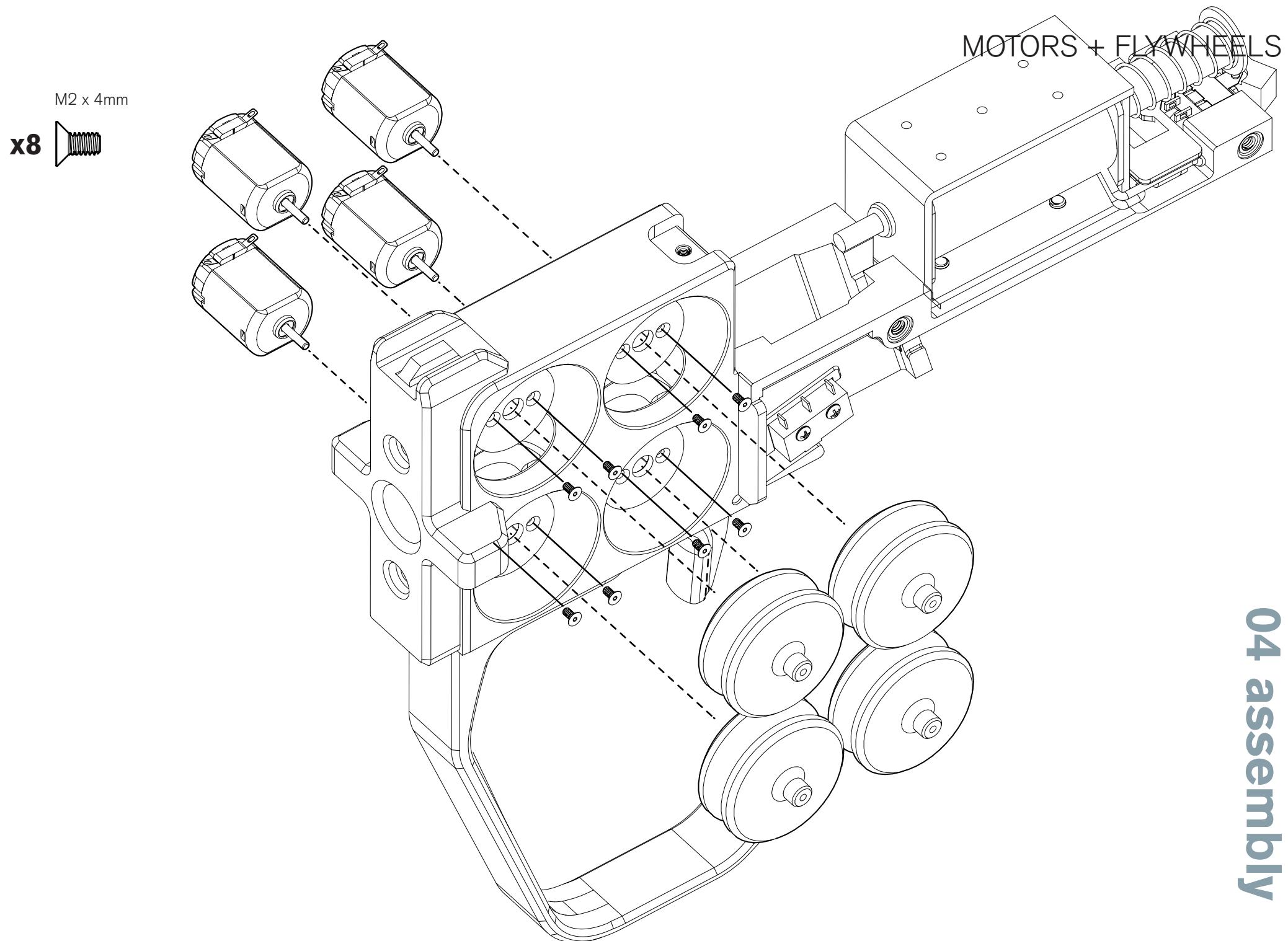
04 assembly

SOLENOID + SOLENOID SWITCH + SELECTOR SWITCH



04 assembly

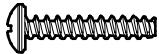
04 assembly

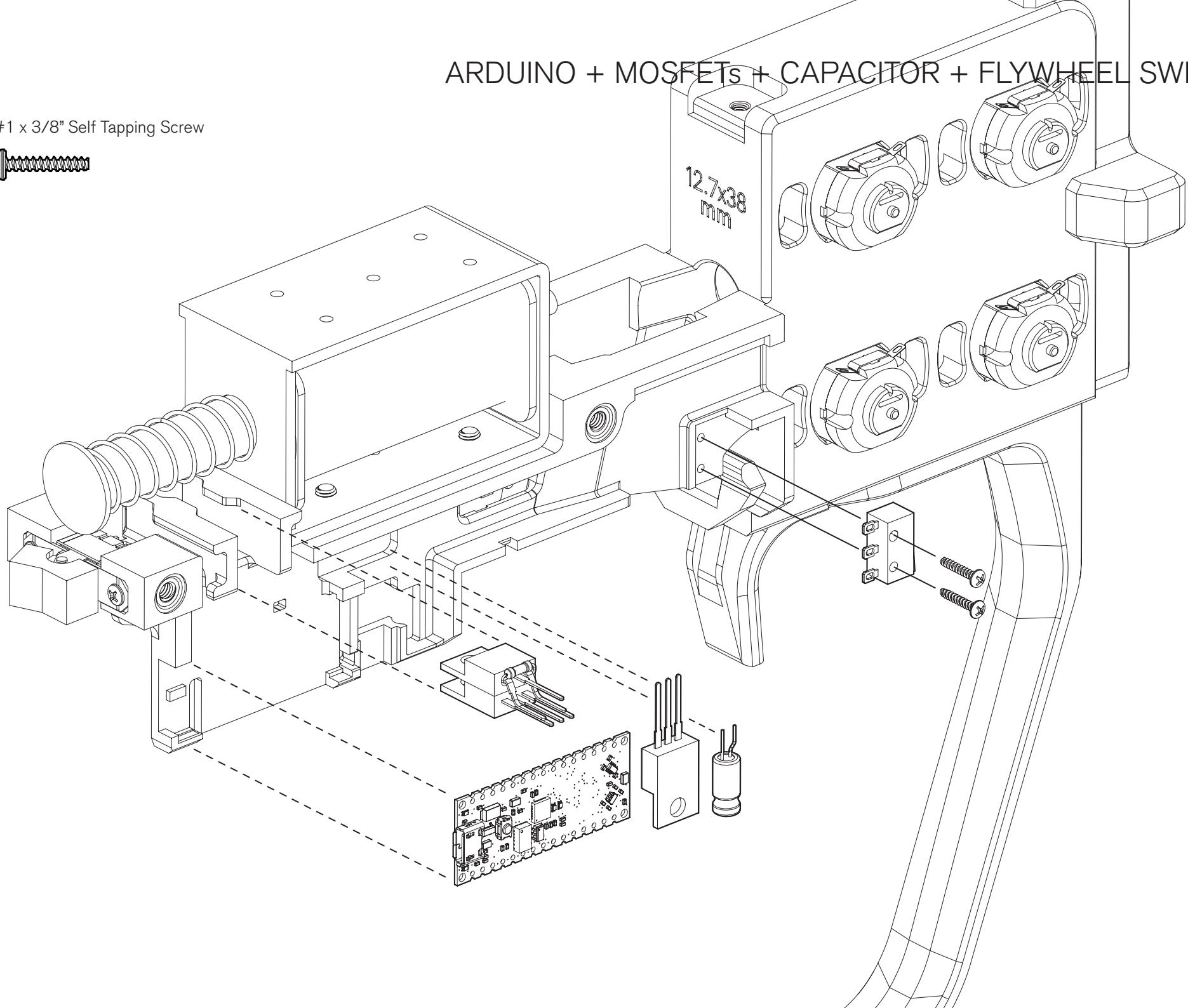


04 assembly

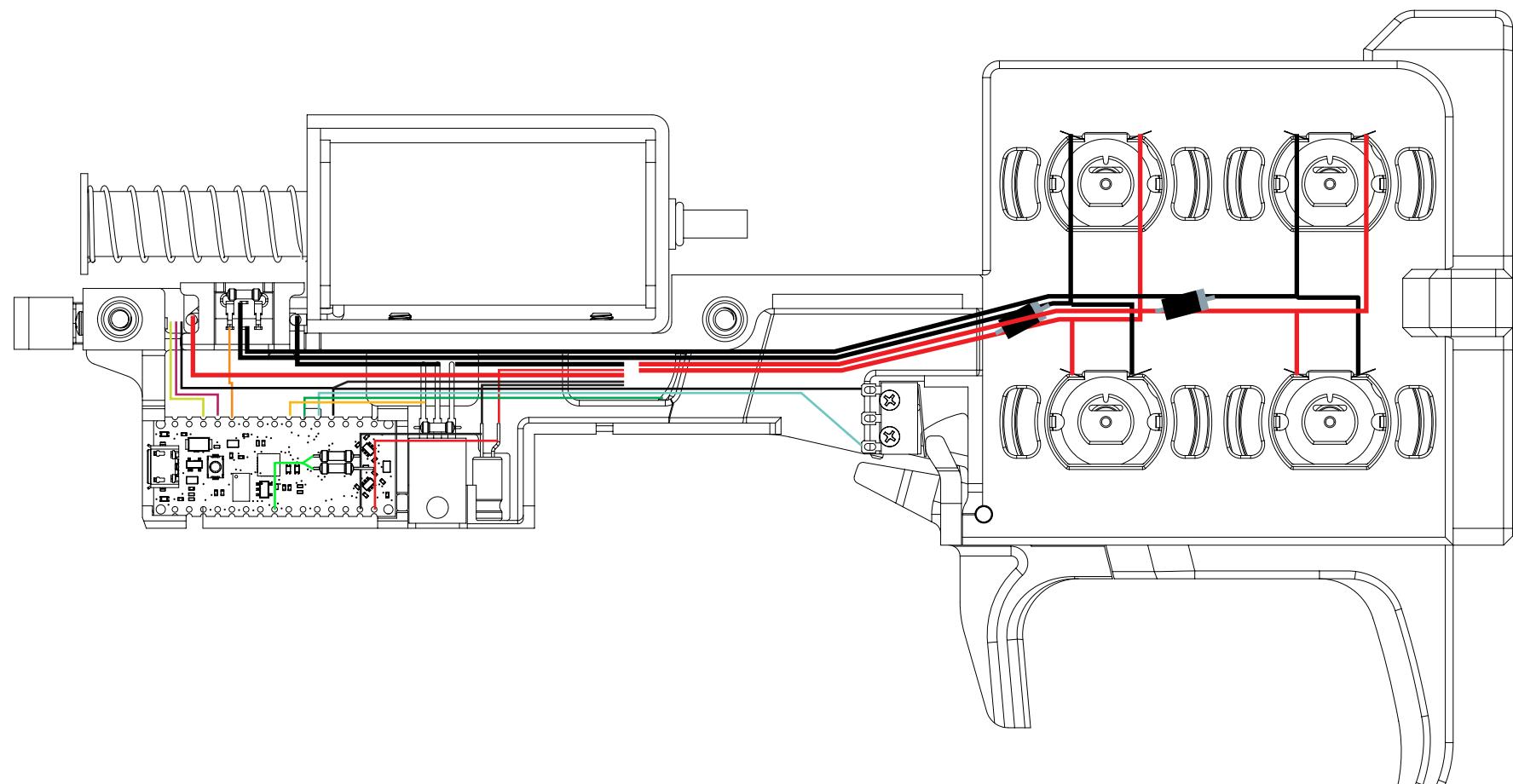
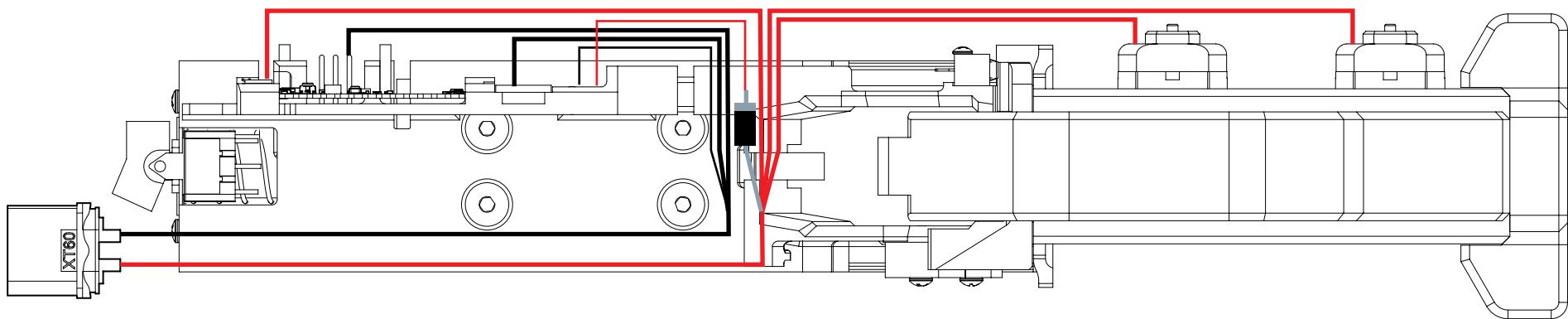
ARDUINO + MOSFETs + CAPACITOR + FLYWHEEL SWITCH

#1 x 3/8" Self Tapping Screw

x2 

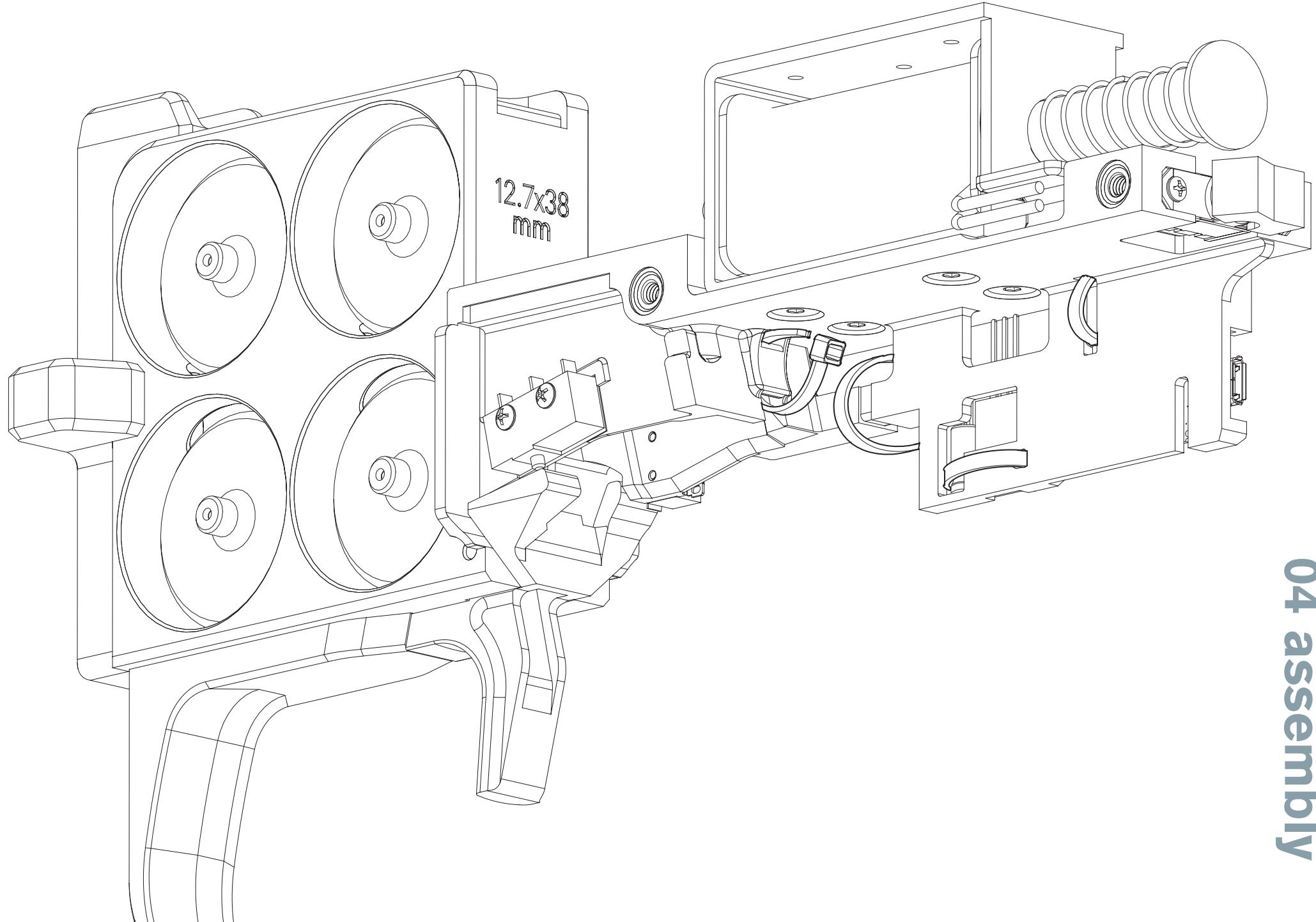


WIRING HARNESS



04 assembly

SECURING WIRES WITH ZIP TIES

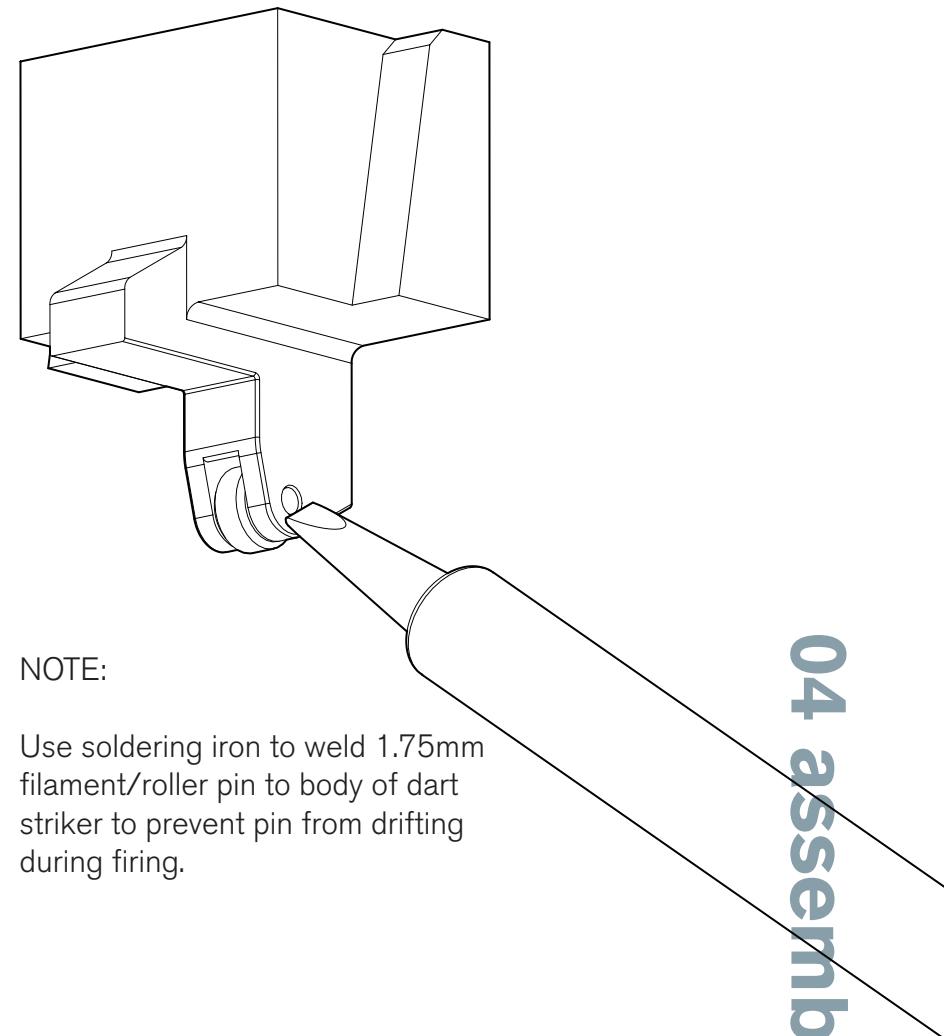
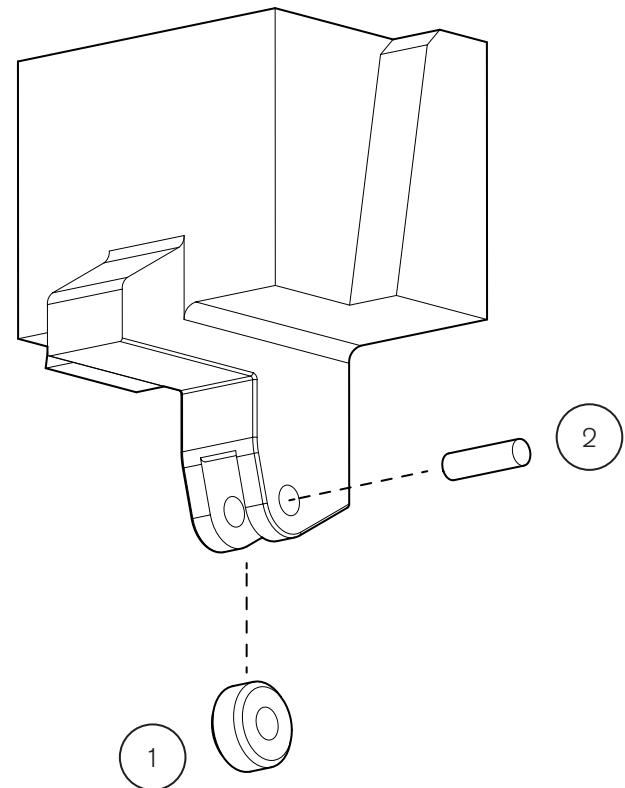
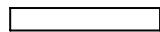


04 assembly

DART STRIKER + ROLLER

1.75mm filament, 6.5mm long

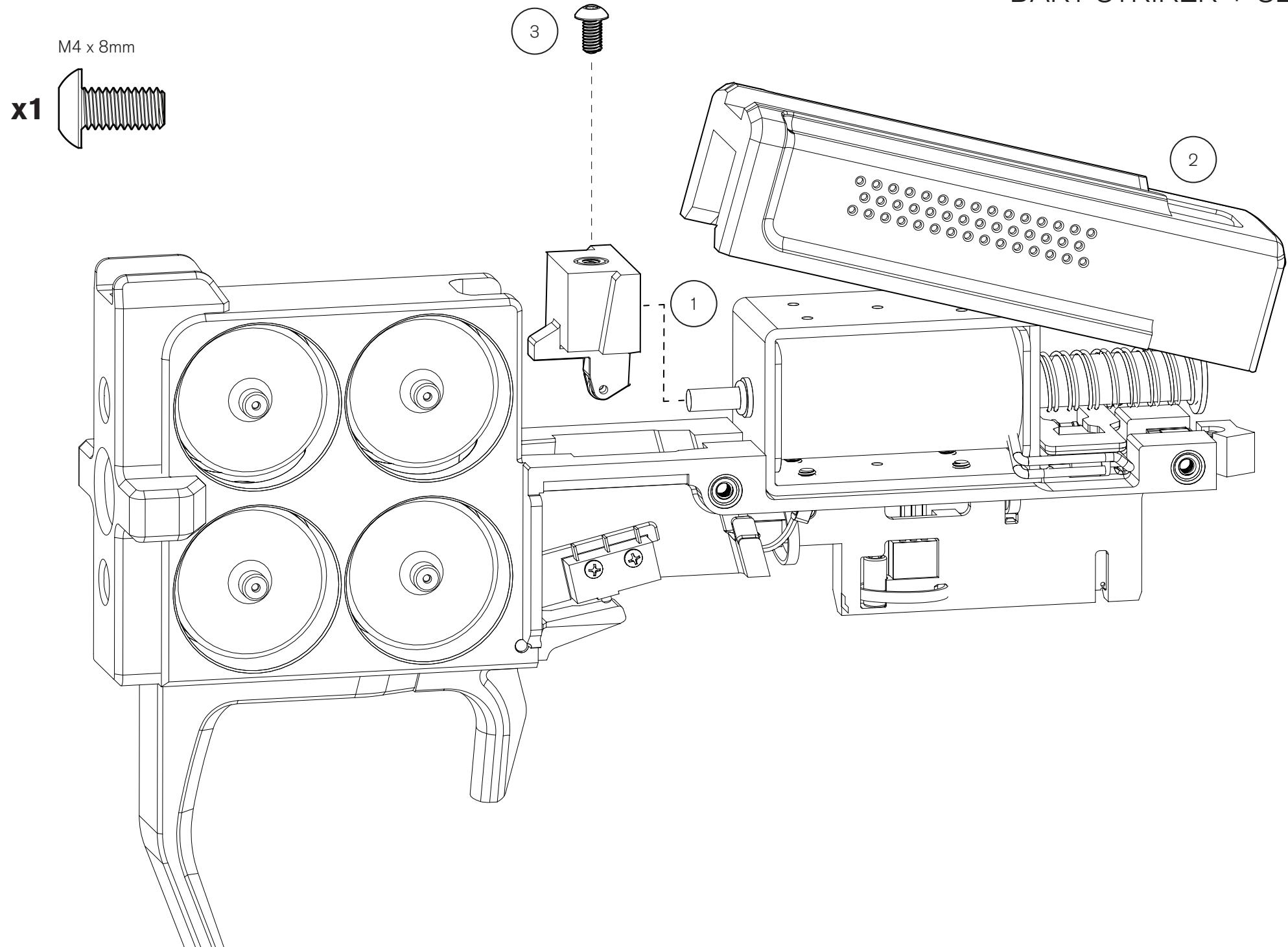
x1



NOTE:

Use soldering iron to weld 1.75mm filament/roller pin to body of dart striker to prevent pin from drifting during firing.

DART STRIKER + SLIDE

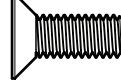


04 assembly

FRAME + SIGHT RAIL + BATTERY DOOR

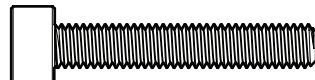
M3 x 8mm

x1



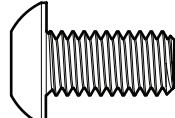
M3 x 18mm

x1



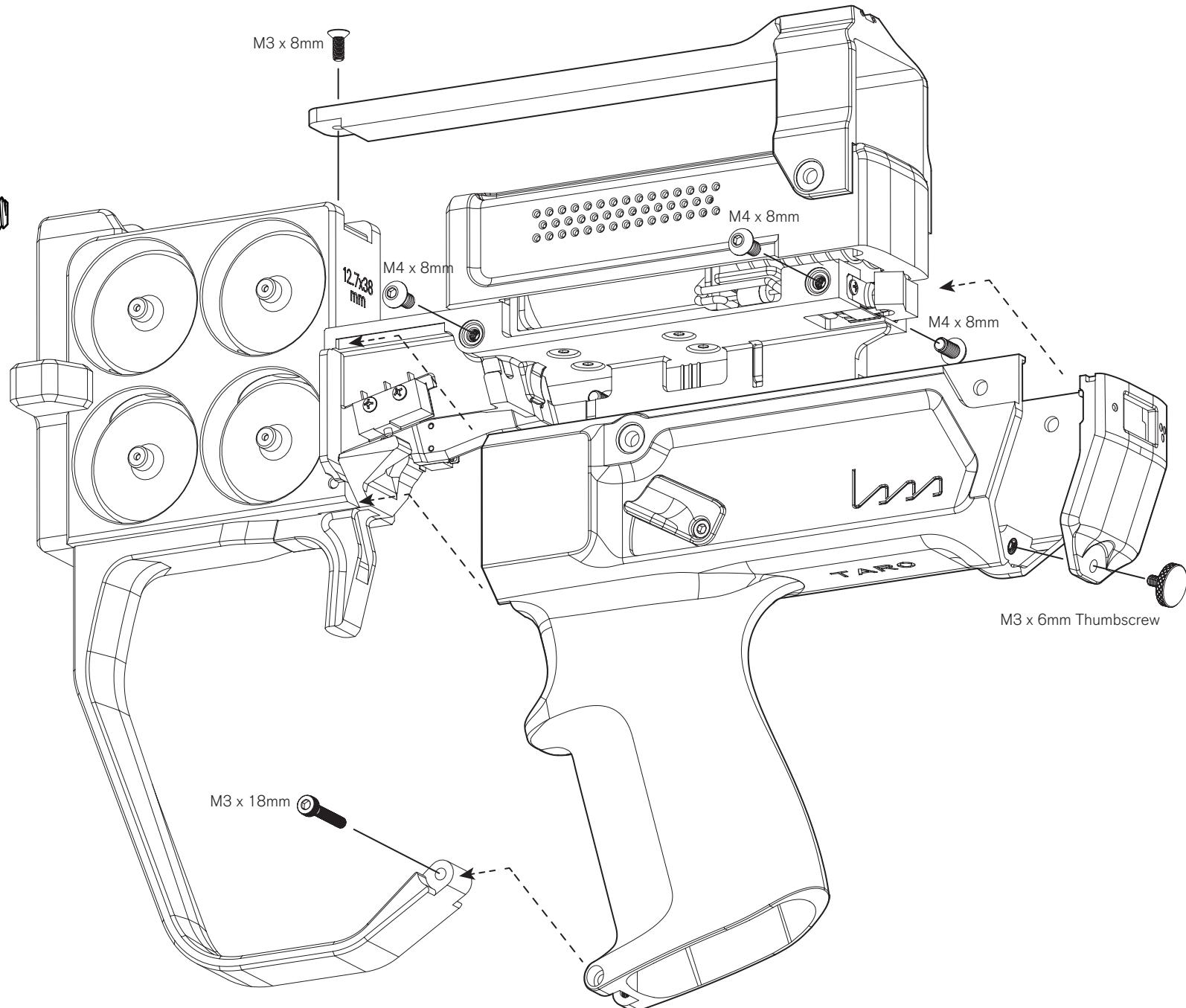
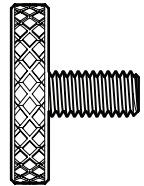
M4 x 8mm

x4

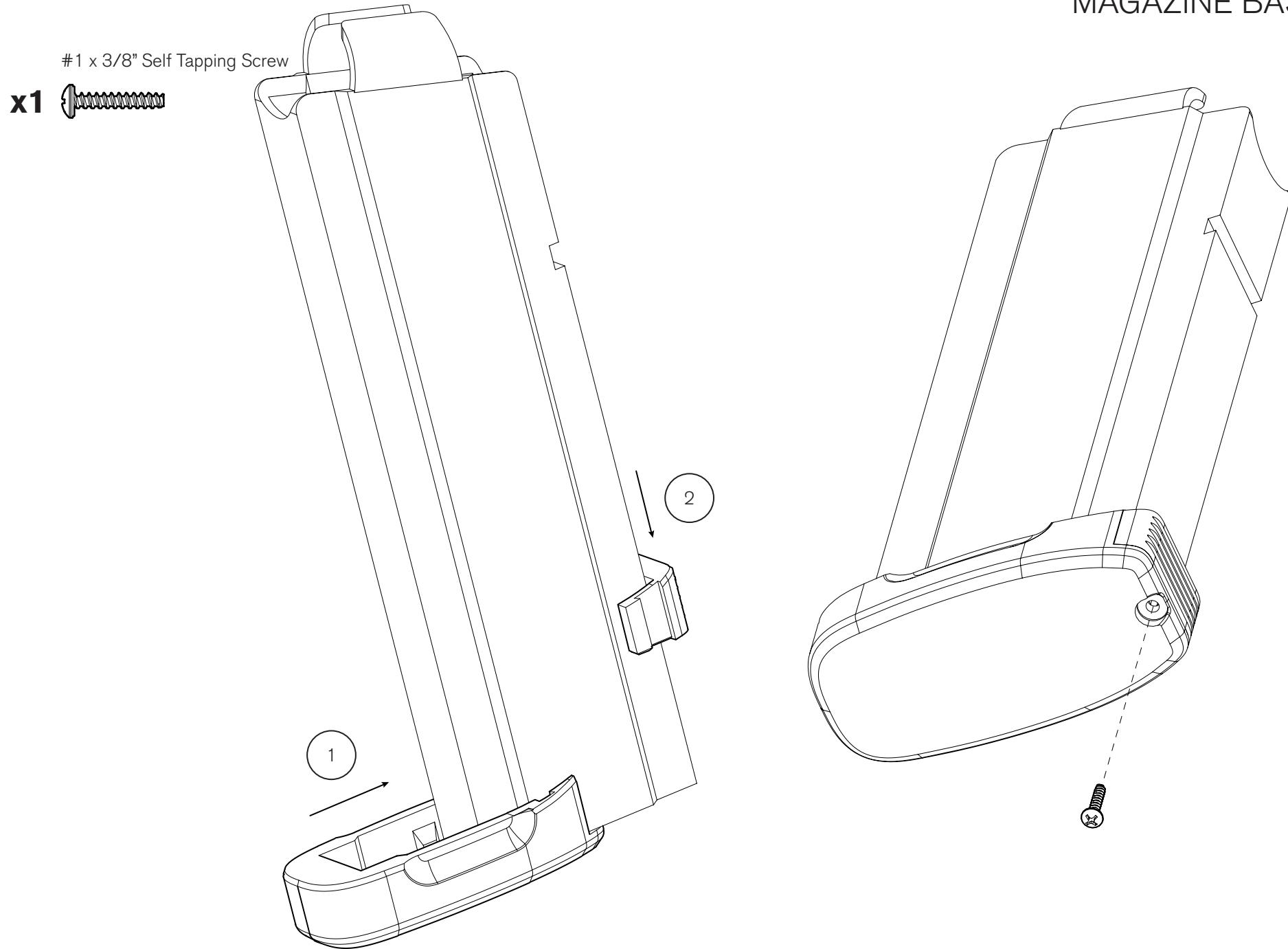


M3 x 6mm Thumbscrew

x1



MAGAZINE BASEPLATE



04 assembly